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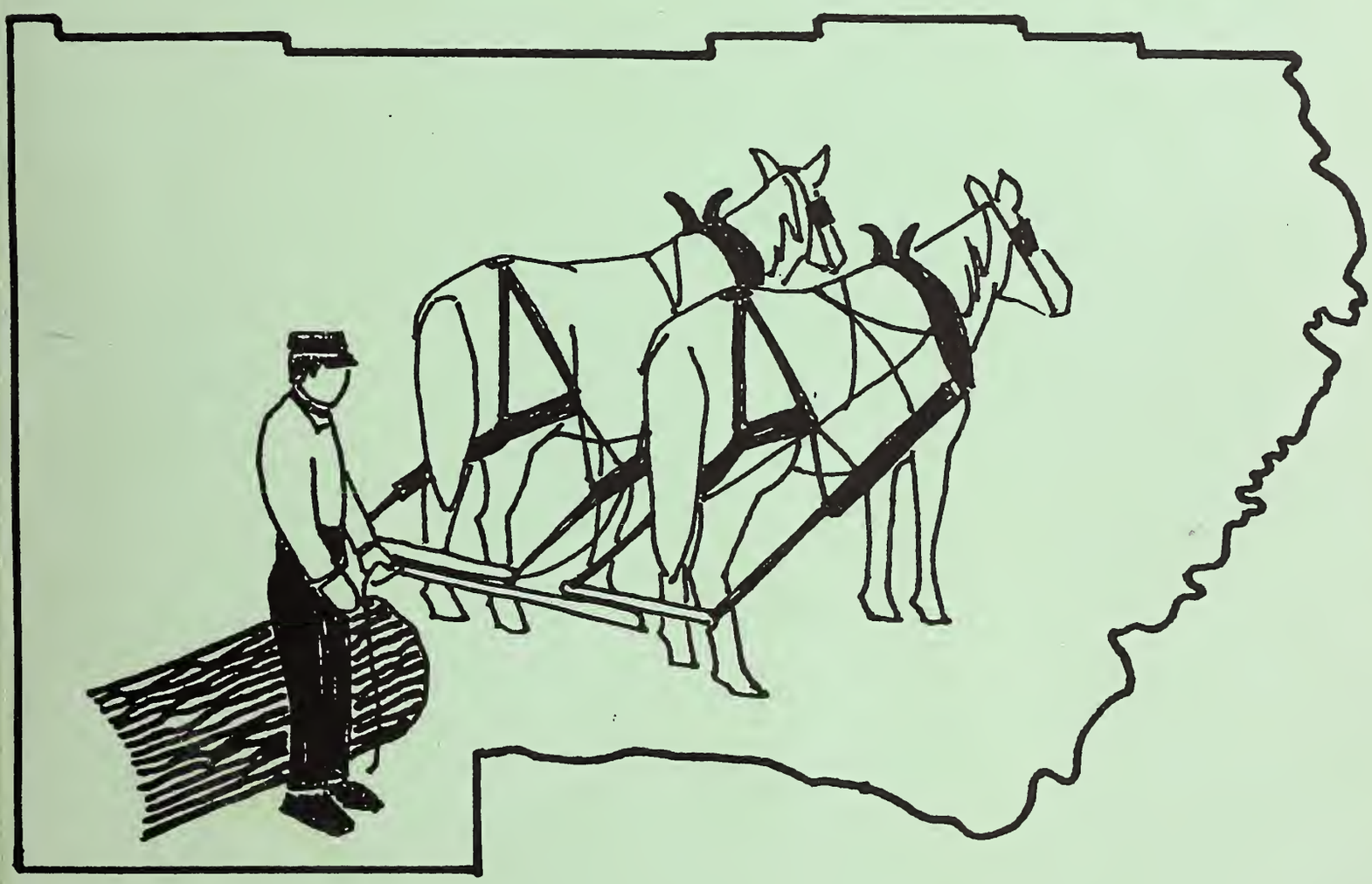

A HISTORY OF FOREST MANAGEMENT

ON THE

NORTHERN CHEYENNE INDIAN RESERVATION, MONTANA

1884-1978

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TREES OF THE MORNING STAR

A History of Forest Management

on the

Northern Cheyenne Indian Reservation, Montana

1884-1978

Prepared for

Bureau of Indian Affairs
Billings Area Office
Billings, Montana

by

Historical Research Associates
Missoula, Montana

June 15, 1980

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PREFACE

The following document was prepared by Historical Research Associates under contract to the Billings Area Office of the Bureau of Indian Affairs. The purpose of the document is to provide land and timber use planners a historical perspective of forest management practices on and uses of the Reservation forest. It is designed to document past BIA problems and accomplishments so that the accumulated experience of decades of timber management is not lost to tomorrow's Reservation foresters and interested Tribal members. The document also is intended to provide general background information on the Reservation's forestry program as an introduction for new foresters or officials charged with the responsibility of administering the natural resource programs of the Reservation under the Government's "trust" obligations. Timber sale data is provided to help foresters prepare future sales and to monitor the productive capacity of the forest. Last of all, but not of the least importance, the purpose of this document is to record the history of forestry on the Reservation for a general audience of people interested in the Reservation forest, in the evolution of Government relations with the Indian people, and the history of the logging and lumbering industry as it relates to this forest.

Due to the diverse audience for which this report is intended, an attempt has been made to produce a document that will not slight the important technical considerations of forestry, but to write about them in a way that would be understood by people not familiar with technical forestry and its terms. For those desiring more in-depth technical information, the footnotes are designed to help locate that data. One important concept that should be explained to the lay reader is the volume by which timber is measured. Throughout most of the period covered by this report, timber was measured by the "thousand board feet"

or MBM (the initial M representing 1000 feet and BM meaning Board Measure). One thousand board feet of timber is roughly equivalent to one-fifth of an average logging truck load.

Another caution to be employed in reading the report is that the names of Government offices have changed through the years. The Bureau of Indian Affairs, for example, was once called the Indian Office or the Office of Indian Affairs. The Branch of Forestry in the BIA was founded as the "Division of Forestry" and has undergone several name changes. Titles also have changed. The Superintendent of the Indian Agency was once called the Indian Agent. The Forest Manager position originally was termed the Senior Forest Ranger or Supervisor of Forests.

This report of Bureau of Indian Affairs forest management on the Reservation has two significant limitations. Since it is specific to the Reservation, it would not always be appropriate to consider generalizations about the forestry program here as applicable to other reservations. In addition, every attempt was made to place the program into the perspective of national developments, but this is in no way a definitive study of the Bureau of Indian Affairs' Branch of Forestry nor of the Government's Indian policies in general. By documenting the history of forest management on this reservation, however, it is hoped that a contribution has been made toward better understanding of forest management on Indian reservations nationwide.

This document could not have been produced without the generous support of many individuals and organizations. The author is particularly indebted to the Bureau of Indian Affairs Branch of Forestry at the Agency, the Billings Area Office, and the Central Office in Washington, D.C. A multitude of professional foresters and staff members in those offices helped direct our attention to sources, explained technically confusing documents, and patiently reviewed draft documents. That help was greatly appreciated. Personnel in the National Archives Natural Resources Division in Washington, D.C., at the Washington National Records Center, and at the Federal Archives and Records Centers in Seattle and Denver also were generous with their time and experienced advice.

The Library of Congress computer search people were most helpful, as were the staff of the Maureen and Mike Mansfield Library at the University of Montana. There were also many individuals, Tribal members, history scholars, and some merely interested in the forestry program who aided in this study. To all of those people, and to the Indian people who own the timber resource of the Reservation, we are most grateful for their assistance and for this opportunity to investigate the history of the Reservation forestry program.

I also would like to thank my own dedicated staff, Mr. William Babcock for editing and re-writing, Cyndy Braun for document editing and typing, Jill Inverso for compilation work on the appendices and typing, Michael Douglass for research related to ethnohistory, and Susan Newell for the cover illustrations.

Gary D. Williams, Author for
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Missoula, Montana

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CHAPTER I

PRELUDE TO RESERVATION

WESTWARD MIGRATIONS

The Northern Cheyenne Indians have not always lived in the region they now occupy, nor have they always been a group separate and distinct from the rest of the Cheyenne people. Anthropologists have discovered evidence to suggest the Cheyenne people once lived a sedentary life in the vicinity of the present-day border between Minnesota and Wisconsin. In the early part of the eighteenth century they began westward migrations, possibly due to incursions into their own territory by the Sioux Indians. For a time they settled along the Missouri River, eventually assuming a more nomadic, hunting lifestyle and moving to the region of the Cheyenne River in the Dakotas and into the Black Hills. They occupied that area in 1803 when Lewis and Clark traveled up the Missouri River on their explorations to the Pacific. About thirty years later the Cheyenne split into two factions, the Northern Cheyenne staying in the region of the Black Hills, northern Wyoming, and southern Montana. A larger segment of the tribe moved to the areas now designated as Colorado, western Kansas, and western Oklahoma. The two divisions maintained close ties since the split resulted from a mutual agreement based upon convenience.[1]

The United States Government, by accident or design, did not recognize the Cheyenne people as two distinct factions when it negotiated with plains tribes to secure safe passage for white immigrants crossing Indian lands in the 1850's. By the Treaty of Fort Laramie of September 17, 1851, the Government outlined territories with each of the participating tribes and recognized the Cheyenne as a single unit. The treaty required the United States to compensate Indians for damages resulting

from white incursions. It acknowledged Cheyenne lands as those encompassing large portions of Wyoming, Nebraska, Colorado, and Western Kansas. The Sioux were to occupy the Black Hills, but the Northern Cheyenne and Arapahoe maintained hunting and passage rights. The Northern Cheyenne continued to live in close proximity to the Sioux in the region north of the Platte River.[2]

Continuing white travel across the plains region helped enforce the division between Northern and Southern Cheyenne, and by the 1860's those two groups were widely recognized as distinct tribes.[3] Continued intrusions by whites into the area occupied by the Southern Cheyenne resulted in demands for a new treaty. The Treaty of Fort Wise in Colorado (1861) assigned the Southern Cheyenne to a smaller reservation in southeastern Colorado. The Northern Cheyenne, however, refused to consent to the treaty. Instead, they continued their residence in the north and joined with the Sioux in driving the Crow Indians from hunting grounds that tribe had occupied in the region east of the Big Horn River and south of the Yellowstone River. The Northern Cheyenne, by 1862, congregated around the rich buffalo country of the Powder River in southeastern Montana.[4]

The Southern Cheyenne did not fare as well in their homeland as white contact increased. The outbreak of the Civil War and news of Indian raids against whites in Minnesota heightened white fears of an Indian uprising. A result of that paranoia was the Sand Creek Massacre of November, 1864. Colonel John Chivington led a group of Colorado Volunteers against a peaceful gathering of Southern Cheyenne and Southern Arapahoe on Sand Creek, just outside the Reservation boundary established by the Treaty of Fort Wise. The senseless carnage of Cheyenne people which resulted from that attack angered Indian tribes throughout the region and initiated an Indian uprising along the Southern Platte River. A group of Southern Cheyenne responded to the attack by raiding the town of Julesberg in February, 1865. They then moved to join their relatives in the Powder River country. In the spring of 1865 the Cheyenne camped together along the Tongue River and next to the Oglala Sioux camp of Red Cloud and Old Man Afraid of His Horse.

The two Indian groups staged raids against white immigrants in the Powder River country and soundly defeated the Government's Powder River Expedition of 1865, after which many of the Southern Cheyenne rejoined their people in the south.[5]

THE FORT LARAMIE TREATY OF 1868

Following the Powder River Expedition defeat, the United States Government attempted to negotiate peace with the Sioux and Northern Cheyenne. Initial attempts failed as the military established posts along the Bozeman Trail to protect settlers following that route into the gold fields of Montana. The Indians attacked and killed troops under Captain Fetterman from Fort Phil Kearny in 1866, and they harrassed travelers along the trail. In 1867 the United States established a peace commission to renew negotiations with Indian tribes of the plains and western Rocky Mountains. The stated goals were to eliminate causes for war, to secure white settlements in the region and railroad routes to the Pacific, to establish a plan for "civilizing" the Indian tribes, and to move toward establishing all of the Indian tribes on reservations.[6]

This time the peace initiative succeeded, partially due to Government concessions to close the Bozeman Trail and to destroy posts protecting the route. At Fort Laramie the United States entered into a treaty with the Sioux (April 28, 1868). It signed pacts with the Kiowas, Comanches, Kiowa Apache, Southern Cheyenne, and Arapahoes at Medicine Lodge, Kansas (October, 1867). At Fort Laramie the Crow Indians signed a treaty with the United States representatives on May 7, 1868. The Northern Cheyenne and Arapahoes accepted the terms of another treaty at the same place three days later. Under provisions of that treaty, the Northern Cheyenne and Arapahoe would settle upon a reservation either at Medicine Lodge with the Southern Cheyenne and Arapahoe or on lands conceded to the Sioux in the region bordered by the Big Horn Mountains to the west, the North Platte River to the south, and the Missouri River to the east.[7] That land was not to be entered by whites without consent from the Indians.

The treaty with the Northern Cheyenne stipulated that they had to attach themselves to one of the Government agencies, either at Medicine Lodge, Fort Randall, or Crow Agency at Otter Creek on the Yellowstone River.[8] Many Northern Cheyenne chose to live on the Greater Sioux Indian Reservation in South Dakota. Others lived near the Oglalas under Crazy Horse in the Powder River region.[9] The Government attempted to attract Indians into its "civilization" program by offering 320 acres of land to heads of families who desired to enter into agriculture. That offer represented part of the Government's basic Indian acculturation philosophy in the 1868 treaty negotiations.

The Indians were not quick to respond to Government desires to turn them into farmers; nor were they blind to threats to their treaty rights. In the early 1870's the Government constructed military posts north, south, and east of the Greater Sioux Indian Reservation. In 1872, in violation of the 1868 treaty, gold seekers found evidence of their precious metal in the Black Hills. The Government responded with a military reconnaissance into the Black Hills to confirm reports of discovery. More gold seekers followed. The Indian tribes, particularly the Sioux of Sitting Bull and Crazy Horse, viewed the Black Hills as holy land and fought back.

THE LITTLE BIG HORN AND TRAGIC AFTERMATH

After the Sioux, Northern Cheyenne, and Northern Arapahoe refused to report to their agencies, the Government sent an expeditionary force against them. General George Custer found them first along the Little Big Horn River and led his troops into one of the West's most famous military defeats. The Northern Cheyenne and Sioux parted company after the battle, Crazy Horse meeting defeat at the hands of General Nelson Miles in January, 1877. The Northern Cheyenne remained on the plains in scattered bands.

General Miles convinced one band of Northern Cheyenne under Two Moons to surrender at Fort Keogh, where some of his men entered service as scouts for the United States Army. A larger band under Dull Knife

and Little Wolf surrendered to Generals Cook and McKenzie in the spring of 1877. These Northern Cheyenne were sent to reside on the Southern Cheyenne and Arapahoe Indian Reservation in Oklahoma. Unable to get along with the Southern Cheyenne and suffering from disease and living on subsistence rations, the Northern Cheyenne decided to return north. Although the Commissioner of Indian Affairs disputed those claims, the two groups under Dull Knife and Little Wolf broke away from the Southern Cheyenne and Arapahoe Indian Reservation.[10]

Almost 300 Northern Cheyenne started their northward trek in September, 1878. Dull Knife and Little Wolf argued along the route after the former, hoping that his people would be transferred to the Pine Ridge Agency on the Greater Sioux Reservation, decided to surrender at Fort Robinson in Nebraska. Little Wolf and his band continued north, where they surrendered to General Miles in March, 1879, and took up residence at Fort Keogh. Troops captured Dull Knife and his band before they could reach Fort Robinson and ordered them back to Oklahoma. Stiff resistence ensued in which troops killed 64 and put 20, including Dull Knife, on trial. Pine Ridge accepted 58 of the group. They joined Little Wolf and Two Moons at Fort Keogh in November, 1879.[11] Other groups resided on the Wyoming reservation of the Northern Arapahoe and on the Southern Cheyenne and Arapahoe Reservation in Oklahoma. Two hundred thirty-five Northern Cheyenne left the latter reservation with Little Chief in 1881 and established themselves on the Pine Ridge Reservation without Government consent. The Secretary of Interior even recommended moving all of the remaining Northern Cheyenne in Oklahoma to Pine Ridge.[12]

General Miles allowed some of the Northern Cheyenne at Fort Keogh to hunt in the Tongue River Valley. In 1880, Little Wolf left the Fort to settle near Lame Deer. Others took up residence along Tongue River, Muddy Creek, Otter Creek, and Hanging Woman Creek. In 1882, overcrowding at the Fort resulted in Captain Ezra Ewers' leading the remaining Northern Cheyenne south where most settled by Rosebud and Muddy Creeks. Officers encouraged the Indians, who had lost earlier treaty rights by participation in the fight with Custer, to farm the land and apply for

homesteads.[13] Many of the Cheyenne people who had earlier shared the Wind River Reservation with the Northern Arapahoe ventured to the Tongue River area in 1883 to join their fellow tribesmen, and the Government appropriated money for food to supply the nearly-starving Indians. That same year the Commissioner of Indian Affairs sent a Special Agent to distribute supplies and assume jurisdiction over the Northern Cheyenne occupying the lands around Tongue River. All of these circumstances ultimately would lead the President to create a reservation for the Northern Cheyenne Indians in the vicinity of Tongue River.

White settlers in the area were not anxious to see a reservation created that might undo their efforts at building homesteads and ranches. They complained of Indians killing their cattle, but most reports proved to be unfounded. The Government investigated and denied any significant misconduct by the Northern Cheyenne. Instead, it recommended that the Indian people should be encouraged in their attempts to achieve self-sufficiency.[14]

NORTHERN PACIFIC RAILROAD AND LOGGING TONGUE RIVER FORESTS

In 1879, Miles City already was established at the mouth of Tongue River on the Yellowstone. The small community served as a supply point for Fort Keogh, with steamboats coming up the Missouri and Yellowstone and dropping goods for Fort Keogh there. As with all growing frontier settlements, the demand for lumber was ever-present. In 1879, the Broadwater, Hubbel Company initiated steps toward alleviating the lumber shortage by cutting logs along Tongue River in forests which now are part of the Northern Cheyenne Indian Reservation. They drove the logs down Tongue River to a boom at Miles City, the first log drive arriving in July, 1879.[15] Although the Government maintained a small sawmill for Fort Keogh, newspaper accounts declared that these were the first logs ever to be driven down Tongue River. They also represented the first documented logging activity on what was to become the Northern Cheyenne Indian Reservation.

That first log drive brought 85 logs to the sawmill in Miles City,

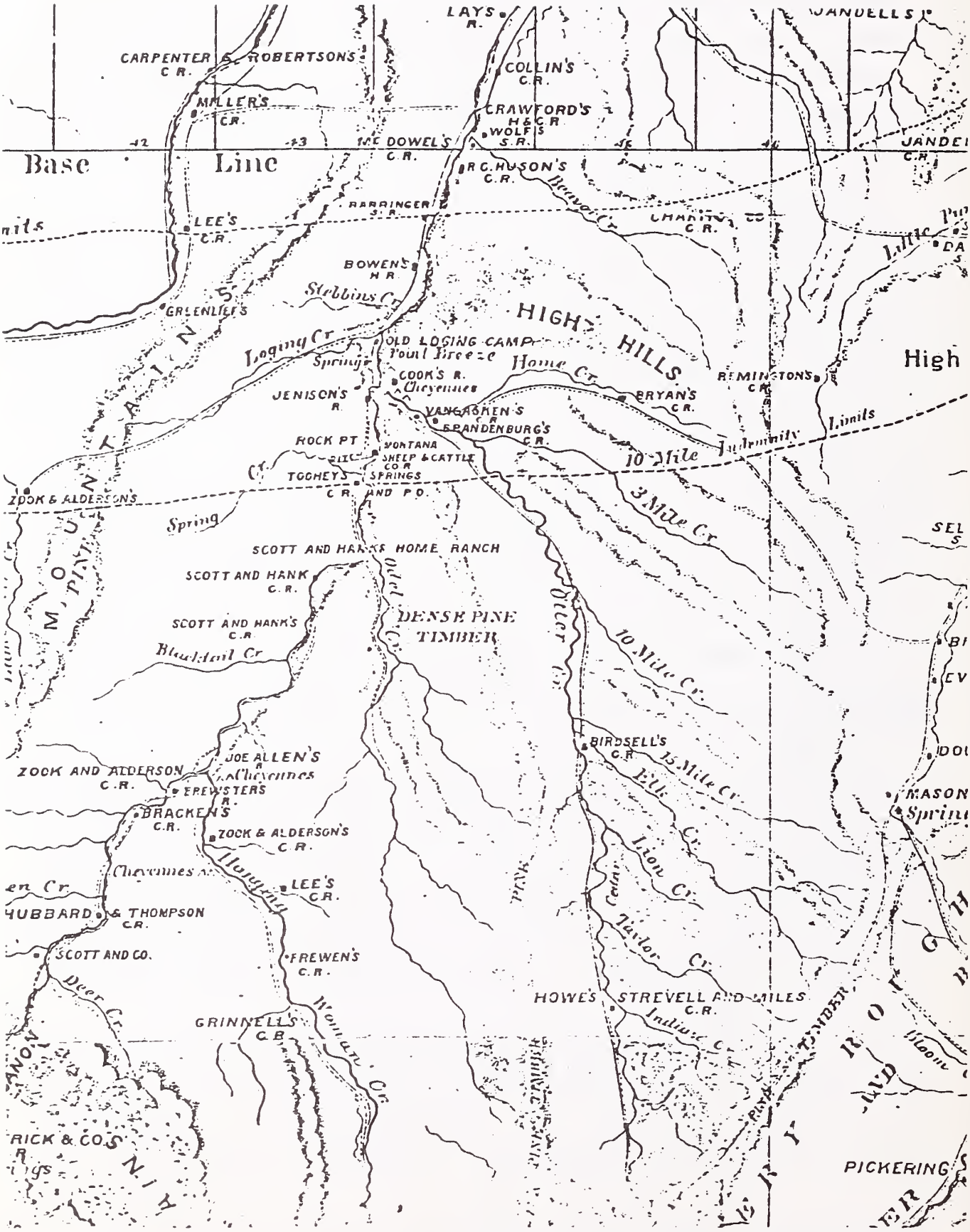
where the Broadwater and Hubbell firm cut an average of 7 thousand board feet of lumber daily. In conjunction with the sawmill, the firm also established a shingle and planing mill. The plant stood ready to receive an additional 3,500 logs cut from the forests along Tongue River nearly 100 miles to the south.[16]

The winter of 1879-80 brought good news and bad to the small lumbering industry at Miles City. The Government sawmill at Fort Keogh burned, increasing demand from the private mill of Broadwater and Hubbel. Good news arrived with General Dodge, who arrived to negotiate contracts for ties and building materials for the Northern Pacific Railroad which was headed west from Bismarck. The contract went to Miles City's only sawmill operators.[17]

Insufficient water in Tongue River halted an attempted log drive in April, 1880. Log drivers ascended the stream to the logging camp near present-day Ashland again in May. This time they succeeded in floating almost 2 million board feet of pine logs and 500 thousand board feet of cottonwood logs to the boom in Miles City. The logs reached the boom in early June, and the company was forced to purchase some 15,000 feet of cable from the steamer "Big Horn" in order to hold the logs in the slough at the mill.[18]

A midsummer drive brought an additional 1,500 logs to the mill from the logging camp. Newspaper accounts declared that the sawmill cut 18 thousand board feet of lumber daily. The subsequent increase in the availability of lumber resulted in construction of some 30 new buildings as lumber prices dropped.[19] The mill set a record for the Yellowstone Valley by producing 1 million board feet of lumber in just two days short of a month.[20]

As the Northern Pacific Railroad approached Miles City, Broadwater and Hubbel sent a large crew into the forests to cut ties for the railroad contract. In October, 1881, crews were sending ties down Tongue River as fast as they could be cut. In the week preceding October 29, the local newspaper reported 75,000 ties had reached town from the region of Tongue River currently bordered by Custer National Forest to the east and by the Northern Cheyenne Indian Reservation to the west. By



Source: William B. Gaw's MAP OF SOUTHEASTERN MONTANA: SHOWING THE GREAT STOCK RANGES EMBRACED IN THE CUSTER COUNTY (1884).

October 29, the same paper stated that 20,000 to 27,000 ties had made the journey down Tongue River and the Broadwater and Hubbel firm had let contracts to freighters for distributing the ties along the railroad construction route.[21]

In November, 1881, Broadwater and Hubbel received another contract for over 250,000 ties and 15,000 piles for Northern Pacific construction. The railroad reached Miles City and constructed a special spur to the sawmill. Here they could pick up ties directly from the mill pond with the aid of a tie-lifting machine the contractor had installed. In order to fill the contract Broadwater and Hubbel employed over 200 men to work in the vicinity of their logging camp and in drainages such as Logging Creek and Tie Creek. Papers estimated that the firm cut nearly a half-million ties from that area and floated them to Miles City in the spring of 1882.[22]

The evidence is not clear as to when the log drives down Tongue River stopped. The Northern Pacific Railroad completed construction of its main line in 1883 with the driving of a "gold" spike at Gold Creek, Montana. Forests closer to the railroad line could produce timber that would be less expensive to secure and manufacture, possibly eroding the market for timber that required the expensive log drive down Tongue River. For whatever reason, documentary sources do not indicate an active lumbering enterprise in 1885, and maps of the region in 1884 refer to the logging center along Tongue River as the "Old Logging Camp."[23]

In 1884 the President of the United States issued an executive order establishing a reservation for the Northern Cheyenne Indians immediately west of the old logging tracts and east of the Crow Indian Reservation boundary. Later, the Northern Cheyenne boundary would be extended to Tongue River to include those pine forests which already had a proven commercial value. By 1884, then, the fiercely proud Northern Cheyenne people had chosen a home in southeastern Montana where they sought to regroup and rebuild under the watchful eye of the U.S. Indian Office. Those forests which served the Northern Pacific Railroad would become an important resource to the Northern Cheyenne Tribe as they accepted "civilization" and its accompanying social and economic changes.

CHAPTER II

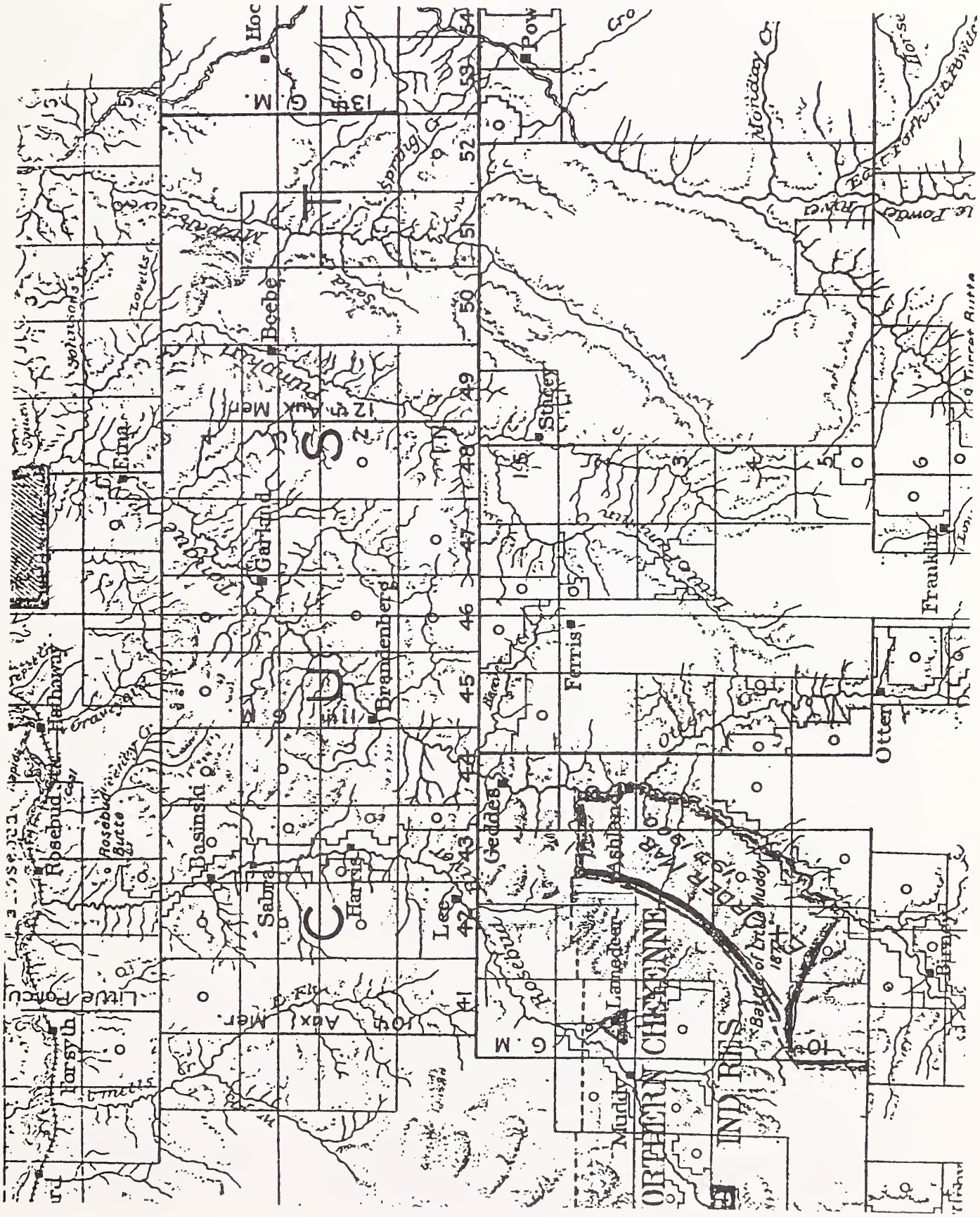
NORTHERN CHEYENNE: EARLY RESERVATION FORESTRY

A RESERVATION CREATED

President Chester A. Arthur created the Northern Cheyenne Indian Reservation through an executive order signed November 26, 1884, in the White House. The reserve was situated in Montana Territory, east of the Crow Indian Reservation and south of the Northern Pacific Railroad Company's southern 40-mile land grant boundary. The Northern Cheyenne Reservation's eastern boundary extended only 12 miles east of the Rosebud River and ran parallel to that stream in a southwesterly direction to a point 30 miles south of the Montana base line, thence due west to its intersection with the eastern boundary of the Crow Reservation. President William McKinley established the current boundaries of the Reservation by a similar executive order dated March 19, 1900. By that order he created the Northern Cheyenne Indian Reservation for the permanent use and occupation of the Northern Cheyenne Indians then in residence at that place.

The Office of Indian Affairs began administering its trust responsibility toward the Northern Cheyenne Indians with the creation of the Reservation in 1884. The Secretary of Interior Reports for 1885 and 1886 indicate severe problems with settling the Indians in the Tongue River vicinity, as numerous white homesteaders had previously located in the area. Conflicts between the Northern Cheyenne and whites led to recommendations by Special Agent Bannister that the United States revoke the executive order that had created the reserve. In its place he advocated negotiations with the Crow Indians for purchase of the northeastern portion of their reserve as a home for the Northern Cheyenne.[1]

Old map located in file "Montana Indian Agencies," E327, Record Group 75, National Archives.



THE "CIVILIZING" PROCESS AMID BOUNDARY PROBLEMS

By 1886 the Commissioner of Indian Affairs was beginning to provide for the needs of the Northern Cheyenne on their Montana reservation. Although the Secretary of the Interior advocated a thorough survey of the area as a prelude to providing homestead tracts to the Indians and opening the reserve, the Indian Office representative on the Reservation made substantial progress toward establishing a permanent agency headquarters on Lame Deer Creek. Farmer-in-Charge R. L. Upshaw secured the Indians' help in constructing a dwelling for the Agent and in cutting and hauling logs for a blacksmith shop and stable.[2]

While the Government did well in establishing its administrative foothold on the Reservation, the Indians did not fare so well. Upshaw credited the Northern Cheyenne loggers and freighters with doing fine work, noting especially their trustworthy attention to their jobs. Bad seeds and a dry summer made the Indians' agricultural attempts a disaster, despite Upshaw's opinion that the Indian farmers made a fair start and "showed a commendable industry."[3]

It should be noted here that all logging activities on the Northern Cheyenne Indian Reservation during this early period were under the direct supervision of the Agency "Farmer," as Upshaw was classified at that time. Until the formation of the BIA's Forestry Branch 24 years later, the Farmer was the Agent's right-hand man in nearly all forestry matters.

Farmer R. L. Upshaw's first annual report to the Commissioner of Indian Affairs also mentioned the severity of fires on the Reservation in 1886. The same dry weather which made farming so difficult spawned wide-ranging fires. Upshaw described it well:

> The reservation has been devastated from north to south and from east to west by prairie and timber fires, and the atmosphere is now laden with smoke, which hangs like a pall over the country.[4]

Harsh as that fire situation may have appeared to Upshaw, it served a beneficial purpose by thinning young growth and preventing the accumulation

on the forest floors of fuels that could incinerate the entire stock of mature trees under certain conditions.[5] Thus, during the first year of Government trust responsibility on the Northern Cheyenne Indian Reservation, both the importance of the timber resource for the civilizing effort and the potential threat to that resource were recognized.

By the time Upshaw reported to the Commissioner in 1887, he had been promoted to Agent for the Northern Cheyenne. His attitude toward his charges was well documented in his previous year's report when he stated the following:

> These Indians are dirty, ignorant, obstinate, and hard to control, but generally the men are honest and the women virtuous, two characteristics which seem to be a good foundation for superstructure; but they are a *long* way from being civilized, and time and patience are elements which will necessarily enter into any successful plan for their civilization in my opinion. Having been here only six months and under unfavorable circumstances, my opinions may not be of much value and may change in regard to a great many things connected with them. I think too much should not be expected of them until they have had a better chance heretofore.[6]

The "civilizing" process was slow in 1887, with only 20 houses being constructed for a population of over 800 Indian people. Agent Upshaw recognized the inadequacy of the pace but attributed it to a lack of encouragement from himself. He feared that the controversy which continued to surround the establishment of the Reservation might lead to relocation, at least for some, and the Agent did not relish the thought of the traumatic effects of displacement upon those Indians who might have expended considerable labor in building permanent housing.[7]

The problems with white settlers occupying some of the best land on the Reservation carried on into later years. In 1888, for example, Agent Upshaw reported a sawmill in operation near the northeastern boundary of the Reservation. Without proper maps, however, he was unable to determine whether the activity was a trespass. The mill was in a large stand of ponderosa pine, one of the first stands on or near the Reservation.[8]

The Agency itself had no sawmill. It relied on Indian laborers to

cut and haul logs for construction of needed Government structures. The Indians played a principal role in building three storerooms, a school building, a house for the physician's quarters and dispensary, and a slaughter house in 1887-88. So pleased was Agent Upshaw with the work performance of the Northern Cheyenne that he recommended their employment in constructing housing for the Agency farmers, herders, and school employees. He noted the small expense in using Indian labor and the fact that the Indians worked well in cutting, hauling, and building, especially with the prospect of immediate financial reward.[9]

On July 9, 1890, Agent Upshaw relinquished his position to the new Agent, James A. Cooper. Cooper was dismayed over the condition in which he found the Northern Cheyenne. In his opinion, they showed no disposition toward work--a situation which he blamed on the Government's annuity system. In addition, the Indians could not be encouraged to cultivate the land, as the tensions between them and the neighboring white population ran high and the Government was making no assurances that the Northern Cheyenne would be allowed to remain permanently on the lands which they occupied at that time. Relations between the Indians and whites deteriorated further until the Agent called for troops from nearby Fort Keogh to patrol the area. When a cowboy was found murdered, his horse shot, and a portion of a steer carcass nearby, it was the presence of the military that prevented open warfare between area cowboys and the Northern Cheyenne. Five Indians were charged with the killing and were arraigned before a judge in Miles City.[10]

In October, 1890, the Government replaced Cooper with Agent John Tully. Agent Tully's first annual report to the Commissioner of Indian Affairs reflected an assertive approach to the conduct of the Government's trust responsibility on the Northern Cheyenne Indian Reservation. He not only reiterated the complaints of his predecessors, but he also offered recommendations for solutions. To the most significant problem, that dealing with the permanence of the Reservation, he advocated extending the eastern boundary to Tongue River so as to include the Indians who had settled along that stream. He further suggested that the Government purchase the lands owned by white settlers within the reserve and

retain the entire Reservation for the use and occupation of the Northern Cheyenne Indians. To avoid trespass problems he sought a definitive survey of the Reservation boundaries.[11] Agent Tully must have had considerable influence or foresight as nearly his recommendations were later implemented.

The boundary problem was the single most important forestry-related issue that year. Agent Tully reported two sawmills operating near the Agency and producing lumber daily. He was not able to ascertain whether they were within the Reservation boundaries, although he believed that to be the case. Shipments from the two sawmills went to Wyoming and points along the Yellowstone River, with no benefits accruing to the Northern Cheyenne whose timber possibly was being cut. Agent Tully surmised that the Government's survey of permanent Reservation boundaries would result in shutting down the two sawmills.[12]

Agent Tully also made the first recommendation that the Government erect a sawmill on the Northern Cheyenne Indian Reservation for the benefit of the Indians. They could receive the use of their valuable timber resource in the form of lumber and the opportunity to learn skills required to manufacture that product. It also would aid Tully in his attempts to escalate the Indian housing program and upgrade Agency facilities.[13]

The Government did not progress far toward providing solutions to those problems by the time John Tully next reported to the Commissioner of Indian Affairs. In 1892 he again lamented that he was powerless to stop white trespass on timber and grazing resources as long as there was no adequate boundary survey. Continuing conflicts and the threat of open hostilities forced the Agent to request the military at Fort Keogh to establish a "subfort" near the Agency to protect him and other Government employees and property. His task of acculturating the Indian population became especially burdened with the addition of 300 Cheyenne Indians formerly situated at the Pine Ridge Agency. Agent John Tully increasingly assumed the role of a frustrated, and perhaps angry, Government official.[14] It was no surprise, then, that he was replaced in

1893 by Acting Agent Thomas Sharp, Captain in the 17th Infantry, and the following year by Acting Agent Captain George Stouch.

While the Agents at Northern Cheyenne continued to despair over the possibilities of successful crops, they gradually came to realize that the Indian disposition and the nature of the land itself looked far more favorably toward livestock production. It was the forest, however, that provided the first real job opportunities for the Northern Cheyenne on their reservation in southeastern Montana.

Just as earlier Agent R. L. Upshaw had found the Indians willing to aid in cutting and hauling logs for Agency construction, Captain Stouch found them eager to contract for work in the woods. He reported the following to the Commissioner of Indian Affairs in September, 1895:

> This year, for the first time in their history, the Cheyennes have had an opportunity to earn a few dollars by the sweat of their brow. I secured for them the contract to furnish 400 cords of wood and 30 tons of hay for Camp Merritt, the military post here, and also authority to purchase from them 117 cords of wood and 200 tons of hay for the agency, for which they received $4,109.50; they also received $2,919.28 for transportation of freight, making a total of $7,028.78 for the year.
>
> At the time I directed them to cut and bring in the wood I supposed it would take them months to fill the contract, but a few days after giving the order, while riding over the hills, I came upon a party of wood cutters and was astonished at the amount they had cut, and saw that if the other parties had cut as much they had already enough to fill the contract. I at once started runners to stop cutting and tell all hands to bring in what they had cut. As a result of their work I received 517 cords of wood, all of it cut and delivered within two weeks after the order had been given out. . . . This has demonstrated beyond a doubt that the Cheyennes will work if by working they can see a dollar in sight and thereby better their condition. They are intelligent, quick to grasp an idea, and are eager for work. Scarcely a day but someone makes an appeal for work, but unfortunately there is no regular work about the agency for more than a few men. I always give them irregular work when it can be done, and often make work in order to encourage them.[15]

Still the Government did not install the sawmill requested earlier by Agent John Tully. There was a shifting emphasis away from agriculture

to stock raising, and the ever-present problem of the indefinite status of the Reservation itself consumed the Agent's administrative time. In 1896 Acting Agent Stouch bemoaned Congress' appointment of a special commission to negotiate with the Crow Indians for a portion of their reserve upon which the Government might relocate the Northern Cheyenne. Stouch saw the move, should it prove successful, as damaging to efforts to acculturate the Indians. The mere suggestion of relocation caused discomfort among the Northern Cheyenne, and Stouch pleaded for a definite resolution of the issue at the earliest possible date.[16]

By 1897 even the timber resource appeared as merely an enhancement of the grazing resource. Stouch made the following analysis:

> I am of the opinion that the only means by which these Indians can become self-supporting is by the raising of stock; and as this country is peculiarly adapted for this purpose, the hills being heavily wooded, serving for protection against storms, the valleys and hills being finely grassed, and the water being excellent and in great quantities, as there are numerous springs scattered throughout the hills, I earnestly recommend that native stock be furnished these Indians for breeding purpose. If this is done, and competent persons placed in charge of this industry, I believe that not many years will elapse before the Northern Cheyenne Indians will become self-supporting. The Indians themselves are very desirous of this opportunity of advancement.[17]

THE McLAUGHLIN INSPECTION

In 1898 the Commissioner of Indian Affairs took decisive action toward resolution of the Reservation boundary problems confronting the Northern Cheyenne. With authorization from Congress, he sent Inspector James McLaughlin to report on conditions on the Tongue River Reservation, as it was called at that time. He was to investigate the possibility of removing the Northern Cheyenne to the Crow Indian Reservation. He also was to report on the number of white settlers on the Northern Cheyenne Reservation, the nature of their land titles or claims, and the value thereof. The latter was in the event that the Government should determine it feasible to purchase those properties and extinguish all white

land claims on the Reservation. Inspector McLaughlin was empowered with the authority to enter into negotiations or agreements with whites who were willing to sell their land and improvements, any agreements being subject to ratification by the Secretary of the Interior. In addition, his instructions required that he evaluate the potential for putting a fence around the entire Reservation and determine the grazing capacity of the area that might be included within such a boundary. It was a formidable task--even without the four-month deadline which Congress imposed on the study.[18]

McLaughlin reported in November, 1898, with the recommendation that the eastern boundary of the Reservation be extended to the Tongue River and that land and improvements belonging to white settlers be purchased for approximately $151,595. He further suggested that the north and south boundaries of the enlarged reservation be fenced at a cost of not more than $7,150 and that the Government provide bulls and heifers to the Northern Cheyenne Indians for a sum not to exceed $28,200. To provide for more effective administration on the reserve, the Inspector also recommended additional appropriations to construct new Agency buildings, repair old ones, and establish subagency buildings on Tongue River.[19]

Timber on the area presently encompassed by the Northern Cheyenne Indian Reservation, together with the abundance of coal, were the major factors cited in rejecting a home for the Northern Cheyenne on the Crow Indian Reservation. Inspector McLaughlin, in a report dated November 14, 1898, observed the following:

> A serious objection to the removal of the Northern Cheyenne Indians to the Crow Reservation would be lack of fuel and timber for building and fencing. The scarcity of timber east of the Big Horn River, except in the mountain region before referred to, would entail great hardships on the Indians, while on the Cheyenne Reservation there is an ample supply of timber and coal for untold generations, and it therefore becomes apparent that the present reservation, with proposed extension east to Tongue River, presents by far the most favorable resources for the permanent settlement of the Northern Cheyenne.[20]

At this early date, then, the Government recognized the value of the timber resource for the Northern Cheyenne--not for marketability, but for subsistence.

Congress did not approve the necessary appropriations in 1899. In May, 1900, however, Congress approved $171,615.44 to fulfill the recommendation to purchase the land and improvements of whites legally situated on the Northern Cheyenne Reservation. In addition, 46 Indian families who had taken up permanent residence on the east side of the Tongue River were to be paid for improvements they had made to their lands.[21] J. L. Clifford, then Agent to the Northern Cheyenne, reported that there was little progress or conflict to report as the Indians and whites awaited settlement of the reservation land ownership issue.[22] He did note that the Indians had earned a small income from selling wood (approximately 200 cords) and that the unfenced southern boundary was being violated by cattlemen.[23]

By executive order on March 19, 1900, President William McKinley designated the Northern Cheyenne Indian Reservation as a permanent reserve for the use and occupation of the Northern Cheyenne Indians. He officially expanded the boundaries to their present status.[24]

THE INDIAN SAWMILL

By the end of 1902 all of the white settlers on the Northern Cheyenne Indian Reservation had been bought out and removed, with the exception of a number of residents in the Greenleaf Creek vicinity. The Indians constructed fences on the northern and southern boundaries of the Reservation that year and purchased a sawmill with the proceeds of their labor. Agency reports made no further mention of the white-operated sawmills in the vicinity, and it is possible that the new Indian mill was one of those previously mentioned as operating illegally on the reserve. Evidently the mill was water-powered as the Indians cut and banked a large number of logs at the sawmill site, but they were unable to commence cutting until they could complete construction of a flume and ditch for carrying water.[25]

With the advent of the Agent's annual report on August 20, 1904, all of the white settlers had removed from the Reservation and the Indians had begun more active work in the woods. Through the sale of wood, hay, and coal, they earned $2,670. In addition, they manufactured 45 thousand board feet of lumber at their sawmill, all of which was sold.[26] In 1905, the Indians moved their mill across the Greenleaf Divide to Alderson Gulch and resumed cutting at the new site. For sale of wood to the Government that year, they received $240, as compared to receipts of $3,000 for hay and $1,197.25 for coal.[27] Proceeds from sale of lumber jumped to over $400 the following year, with an additional income of $348 for cord wood.[28] Timber cuts in this area by Indians and earlier white sawmill operators apparently had little adverse affect on the forest, as the following report from a 1926 investigation discloses:

> The old cuttings are particularly interesting. Those on Alderson Gulch through which the Ashland-Lamedeer Road goes down to Lamedeer are said to be around thirty years old. They were not closely examined. There are several stands that might repay a study of growth after cutting. Except where bugs hit the stand before or after cutting a good forestry job seems to have been done in these old cuttings. Most of these were made by the army and the Indian Service in the old days. In Greenleaf Creek we find a heavy cut was made on most of the larger north slope bodies of timber about 40 years ago. Trees left have done well.[29]

Both the Army and the Indian Service likely cut in these areas also, but the documentation indicates that most of the harvesting at that time was done by Indians or earlier white residents.

During these early years on the Northern Cheyenne Indian Reservation the Indian Office, as the Bureau of Indian Affairs was officially called prior to 1947, was governed by a single restrictive piece of legislation in its efforts to manage Indian forests. That legislation was the Act of February 16, 1889 (25 Stat., 673), which authorized the President of the United States to prescribe regulations that would allow "Indians residing on reservations or allotments, the fee to which remains in the United States, to fell, cut, remove, sell, or otherwise

dispose of the dead timber standing or fallen, on such reservation or allotment for the sole benefit of such Indian or Indians." Where it could be proved that timber had been deliberately killed to secure its sale, the authority under this act would not apply.

The 1889 act made no provision for the sale of mature timber or green timber of any kind, and it was the policy of the Indian Office to adhere to the letter of that law. When Superintendent John R. Eddy requested in 1907 that the Northern Cheyenne be allowed to cut poles for sale to settlers off the Reservation, the Acting Commissioner of Indian Affairs instructed him that there was no statutory authority for such timber cutting. Assuming that the Indians desired to cut green timber, the Acting Commissioner denied authorization.[30]

The Reservation Indians continued to cut timber for their own use, especially cord wood for fuel and logs for individual houses. The Indian-run sawmill filled most of the Indian needs for lumber. A greater demand, however, was placed on the mill by the Tongue River Irrigation Project, which the Government approved as a means to improve agricultural conditions for Indian farmers on the Reservation.

IRRIGATION

As early as 1905 the head of the irrigation planning section submitted a report to the Commissioner requesting approval of the irrigation project on Tongue River. Since the project would require large amounts of lumber for flumes, it was believed that the Indians could benefit from the use of their sawmill and labor. Acting Commissioner Larrabee, writing to the Secretary of the Interior, advocated that authority be granted to the Agency Superintendent to expend $10,000 to employ Indian laborers at $1.25 per day for each man and $2.50 per day for each man with a team. The Indians would prepare the lumber for use on the project and would deliver it to the points where it would be used. An additional $5,000 expenditure would allow for supervision in preparing bills for the lumber, establishing dimensions and amounts to be cut, and insuring delivery in useable condition.[31]

Work actually began on an irrigation canal near Birney Village in 1906. Lumber for the project was manufactured by the Tribe and, later, by Agency sawmills, with Indian laborers receiving $5.50 to $6 per thousand board feet for hauling from the mill to the ditch.[32] Floods during the summer of 1907 destroyed much of the work, including portions of the canal and several structures. Similar flooding and ice jams dealt a severe blow to the project in 1908, and the "Birney Ditch" was not completed until 1910. The system never was very successful, serving only 24 families and irrigating 500 acres at an estimated cost of $300 per acre. Further flooding in 1913 and gradual deterioration of the canal system helped to convince John A. Buntin, Superintendent in 1915, that the system was not worth maintaining. By 1918 the irrigation project was almost completely abandoned.[33]

POLITICS AND NATURE FORCE A CLOSER LOOK AT MANAGEMENT

In June, 1906, nature forced the attention of Indian Office officials to the forests of the Northern Cheyenne Indian Reservation. For several weeks heavy rains soaked the earth, setting the stage for a violent wind storm that passed across the divide separating the Tongue and Rosebud Rivers. Only eight miles east of the Agency a large body of timber was uprooted and thrown to the ground. More than 1 million board feet of timber lay upon the ground "like matches in a box."[34]

The incident spurred Agent John R. Eddy to write to the Commissioner requesting authorization to hire outside contractors to saw the fallen timber for the Indians and the Agency school, with any remaining to be sold to area ranchers. Eddy claimed that the mill belonging to the Indians was in poor repair and that the wind-thrown timber had to be cut within six to eight months to avoid deterioration.[35]

Acting Commissioner Larrabee informed Superintendent Eddy that sale could only be obtained under the provisions of the Act of 1889. Larrabee directed Superintendent Eddy to draft rules and regulations for handling the wind-thrown timber in accordance with the provisions of that law. Those rules and regulations would then be forwarded to the

President for his approval. In addition, the Northern Cheyenne Superintendent was to give a full report on the condition of the Indian-owned sawmill and the possibilities for repairing it with proceeds from the sale of the timber.[36]

Superintendent Eddy's report was not found in the available records. It is presumed, however, that he advised against expending money to repair the Indian sawmill, as the Indian Office, upon the advice of the Forest Service, authorized him to purchase a Government sawmill and put it into operation on the Northern Cheyenne Indian Reservation in 1907. This followed an earlier authorization to allow an outside mill to operate on the Reservation. Other contemporary accounts described the Tribe's mill as "ancient" and capable of sawing up to 3 thousand board feet per day. The new Agency mill, when properly staffed, had a capacity of 1 thousand board feet per hour. The Tribe continued to operate its mill for several years after the introduction of the Government milling machinery.[37] The Indian Office directed Superintendent Eddy to saw only as much timber as could be cut and hauled to the Agency mill by Indians of the Reservation.

The Indian Office authorized funds from Indian monies derived by their own labor to go toward fixing the old Tribal mill. Indian funds also were used by the Agency to employ a sawyer and fireman to work at the mill manufacturing lumber for the Indians. Individual Indians were required to work for lumber they received from the mill. An attempt by Superintendent Eddy to retain one-half of the lumber as a toll was squashed by Acting Commissioner Larrabee, who pointed to the Indian ownership of the mill and the use of Indian funds in maintaining and operating it.[38]

It appears that at this time the Indian Office in Washington, D.C., closely watched the Superintendent's timber administration policies to insure that they were in accordance with law and the general policy of the Interior Department. As a measure of that policy, Acting Commissioner Larrabee sent the following letter to the Superintendent at Northern Cheyenne in 1908:

June 15, 1908

Sir:

The Office has received a letter from the Secretary, dated June 2, in which among other things he says:

> "Our agents in the Indian Service should always keep in mind the necessity of preserving as well as using the timber on the reservations; and wherever possible I desire that the Indians themselves be given the chance to learn how to log in ways more profitably than they have hitherto."

It is desired that you give special attention to the preservation of the timber on the reservation and allotments under your jurisdiction, and where the law permits the cutting of timber for sale or for the use of the Indians, the Indians themselves should be allowed to do the work, wherever possible, and should be given the opportunity, in any timber operations, to learn logging methods that are both profitable and economical.

You are requested to acknowledge receipt hereof.

Very respectfully,
Acting Commissioner[39]

As there was no Forestry Branch within the Indian Office (other than a Superintendent of Logging in the Land Division), the Agency Superintendent had to correspond with Washington to find out what policy was. In January, 1908, for example, Superintendent Eddy requested authority to sell lumber from either the Tribal or the Agency mill to a Mennonite mission that had been allowed to build on the Reservation. Eddy also asked permission to sell lumber to outsiders when that lumber was manufactured by the Agency sawyer and fireman from timber they cut themselves. Larrabee consented to sale of lumber to the missionaries. He forbade sale to outsiders and directed the Northern Cheyenne Superintendent to cut no more timber than was necessary for Indian or Agency use.[40]

FOREST SERVICE COOPERATIVE AGREEMENT

As a means to provide better forestry administration on Indian reservations, the Interior Department entered into a cooperative forestry agreement with the Department of Agriculture's Forest Service on January

22, 1908. That agreement gave Forest Service officials administrative responsibilities for sale of timber and supervision of logging on Indian reservations; forest protection duties; and authority to study forest lands to determine the best permanent use of those lands, going so far as to prepare management plans for lands most valuable for forest purposes. Though short-lived, this cooperative attempt was the first significant step toward professional forest management on the nation's Indian-owned forests.[41]

Secretary of the Interior James B. Garfield and Agriculture Secretary James Wilson agreed to three conditions to be followed in implementing the plan.

> 1. That the salaries and expenses of all men actually employed to carry out this cooperative agreement, and all necessary expenses for equipment and supplies, shall be borne by the Indian Office.
>
> 2. That all men so employed and all those already employed in forest work on Indian Reservations, shall constitute a part of the force of the Forest Service, responsible directly and only thereto.
>
> 3. That in the employment of Indian labor, in keeping liquor away from the Indians, and in other essential ways, the Forest Service will employ in its administration of forest matters the policies of the Indian Office for the welfare of the Indians; but that work in the woods under policies agreed upon by the Indian Office and the Forest Service, shall be planned, initiated, and conducted wholly by officers of the Forest Service.[42]

Item two of those conditions later would cause friction between the two signatory departments and eventually would lead to its termination. The Interior Department could not reassign trust responsibility.

On March 2, 1908, Commissioner F. E. Leupp issued a circular letter to the personnel in charge of Indian reservations. In that circular he outlined the provisions of the Cooperative Agreement with the Forest Service and indicated that, wherever possible, forest supervision on the reservations was to be assigned to the forest officer in charge of the nearest National Forest. The Commissioner instructed Indian Office personnel

to address all future correspondence relating to timber sales or logging activities directly to the Forester, Forest Service, Washington, D.C.[43]

The Cooperative Agreement had almost immediate consequences for forest management on the Northern Cheyenne Indian Reservation as Superintendent R. J. Eddy wrote to the supervisor of the neighboring Otter National Forest (later Custer National Forest), requesting counsel and assistance with regard to forestry matters at Northern Cheyenne. He had two sawmills operating, one Tribal and one Agency mill, producing lumber for Indian use and construction on the irrigation project. In addition, he had a large volume of wind-thrown timber on the ground that was beginning to deteriorate. With no professional foresters available to him through the Indian Office, the Northern Cheyenne Superintendent eagerly looked to the Forest Service for help.[44]

The Forest Service's Chief Inspector, E. A. Sherman, then at Ashland, Montana, drove the 26 miles to Lame Deer to consult with Superintendent Eddy, only to find that Mrs. Eddy had diptheria and the family was under quarantine. Speaking via telephone, the Superintendent convinced Inspector Sherman to spend two days in the field and report conditions as he saw them. The result was a ten-page report discussing the character of the timber resource on the Reservation, timber cutting activities, the status of the wind-thrown timber, and recommendations.[45]

The character of the Northern Cheyenne forest pleasantly surprised Inspector Sherman, who estimated the timberland and woodland at 125,000 acres, with a probable yield capacity of 30 to 40 million board feet of merchantable saw timber. The best of that timber lay at the head of Greenleaf Creek, Alderson Coulee, Stebbins Creek, and Logging Creek. He estimated the quantity of merchantable saw timber exceeded that on the Otter National Forest and related a true story supporting that observation:

> A number of Cheyennes (during the preceding summer) had left the Reservation without a permit and had gone up Otter Creek into the National Forest, where, away from all restraint, they were having a fine time gambling. Supt. J. R. Eddy went after them with a squad of Indian police, stopping at Ashland on his way to see Supervisor

McCain to whom he complained; "You have a forest reservation over here with nothing but Indians on it while I have an Indian Reservation the other side of Tongue River with nothing but timber on it."[46]

The heaviest demand placed on the forest resource at the time of Inspector Sherman's visit was the cutting at the Agency mill of lumber for the irrigation project. Plans for the project called for 4,826 linear feet of flume with 60 feet board measure in each linear foot. The Government situated its sawmill at the head of Tie Creek, 15 miles southeast of Lame Deer and 8 miles northwest of the irrigation project. At the time of the Forest Service official's visit in April, 1908, the mill setting was in an open stand of yellow pine.

Inspector Sherman had little positive to say about the operation. Where careful marking should have been required, the contractor cut according to choice. Although stump heights generally were satisfactory, the contractor left tops up to 14 inches in diameter in the woods. Even more appalling to Sherman was what appeared to be an excessive profit for the contractor on the venture. No road or chute work was necessary. Labor was plentiful at 25 cents per hour less $5 per week for board, and the Indian Office provided the sawmill and logging trucks. The contractor, for his part in logging and sawing, received $12 per thousand board feet, and most of the dimensions were 2" x 6" to 10" x 10". For 300 thousand board feet cut and manufactured the preceding winter, the contractor's profit reached over $2,000.[47]

Immediate requirements for lumber at the irrigation project were for 75 thousand board feet. The Tie Creek sawmill camp had available 355 thousand board feet. The maximum additional lumber needed for completion of the Agency irrigation project was 500 thousand board feet. Indian lumber needs amounted to approximately 200 thousand board feet per year, a volume equal to production figures for the old Tribal mill during the preceding year. Inspector Sherman noted the estimated 1 to 2 million board feet of wind-thrown timber on the reserve and recommended that the Agency stop all cutting of live timber except where unavoidable, and then only when carefully selected and marked by a professional

forester. Superintendent Eddy issued an order to that effect to the contractors, who were to stop cutting green timber immediately.[48]

The wind-thrown timber showed evidence of blue stain after lying on the ground for two years. The logs appeared to be sound otherwise. Sherman's recommendation for disposing of the fallen timber was to limit the Tribal operations to dead timber in the vicinity of the Alderson Coulee setting and move the Agency sawmill into wind-thrown timber near the head of Stebbins Creek, closer to the irrigation project. All of the timber between the two settings could then be sold as a logging unit to the highest bidder. To accomplish that goal, he suggested that the Indian Office provide salaries for a permanent Forest Ranger and a part-time Forest Guard. Any sale would be conducted under the supervision of the Supervisor of the Otter National Forest.[49]

On May 14, 1908, Inspector Sherman wired the Forester in Washington, D.C., and requested a "sale examination" of the wind-thrown timber on Northern Cheyenne. The Forester, in turn, wired Forest Examiner K. W. Woodward in Missoula to ask if men were available for the task. By May 21, Woodward had issued instructions to a temporary field crew at Otter National Forest to proceed to the Northern Cheyenne Indian Reservation to make the necessary pre-sale reconnaissance.[50]

The Forest Service's Examiner Woodward reported after a cursory investigation that the situation at Northern Cheyenne was far worse than anticipated. Original estimates of the volume of blown-down timber considered only the tracts accessible by existing roadways. By venturing further into the forest, the inspection crew discovered closer to 50 million board feet of downed timber and another 1.5 million feet of standing timber that had been burned about a year before. The wind-thrown timber remained in good condition as large clumps of earth clung to the roots and held the trunks off the ground, the branches of the crown holding the upper portion aloft. Blue stain was evident and beetles had begun to work under the bark. Otherwise, the wood appeared to be sound.[51]

Although Woodward recommended another survey to map and accurately

estimate the quantity of damaged timber, the question of greatest concern was how and where to market the timber. The Northern Cheyenne, by Forest Service estimates, could use no more than 2 million board feet. At Crow Indian Agency, however, an extensive program of Indian housing construction was under way, with lumber coming via the Chicago, Burlington & Quincy Railroad from Sheridan, Wyoming, at a cost of $26 to $28 per thousand board feet. As Crow Agency was only 50 miles west on a good road, it was thought possible to provide lumber to the Indians there at a similar or lower price than they paid for the Wyoming lumber. Woodward also suggested the possibility of floating ties down Tongue River for sale to the Northern Pacific Railroad and the Chicago, Milwaukee & St. Paul Railroad.[52]

Superintendent Eddy immediately responded to the suggestion of a market with the Crow Agency. He telephoned Agent S. G. Reynolds at that agency and received a commitment to purchase approximately 250 thousand board feet annually from Northern Cheyenne sawmills if prices could compete with their existing billings for Wyoming lumber. Superintendent Eddy saw that as no problem since the Northern Cheyenne Indians were able and willing freighters, then receiving 75 cents per 100 pounds for freight hauled from Crow Agency to Lame Deer, and he believed they would carry the lumber at even better rates to insure employment.[53]

Another 250 thousand board feet could be sold at the Agency mill sites to area settlers if authorized and if the mills could meet the demand. The old Tribal mill and the Agency mill continued to operate, with a capacity of 3 thousand board feet daily at the former and 8 thousand board feet at the latter. He believed it would be prudent to cut 4 million board feet of lumber and store it until needed for use or sale. Eddy recommended hiring additional trained personnel for those mills and hiring Indians to haul logs at $3 to $6 per thousand board feet. To increase local marketability, he further advocated that the Government purchase a planing mill, a lath mill, and a shingle mill to complement the Agency sawmill on the Northern Cheyenne Indian Reservation.[54]

The Forest Service sent Samuel Cross to Northern Cheyenne to map the wind-thrown timber area, estimate the volume that could be made available for cutting, and look at marketability. Cross wired the Forester from the field that no large market was available for the Northern Cheyenne timber and endorsed Superintendent Eddy's recommendation to operate a mill to satisfy local demands. He could contract for "tree to pile" if he were to receive prompt authority. The Washington office refused authority, which it claimed must come through the Indian Office. Instead, they ordered Cross to provide more details.[55]

Cross' preliminary report revealed little new information concerning the sale area. He revised the estimate of damaged timber downward to 30 or 35 million board feet. (This was due to a re-examination of Tie and Logging Creeks, where earlier logging in clear-cut fashion had drastically reduced the volume of remaining timber.) He also classified the timber as being 20 million board feet suitable for manufacture into lumber, in "fair" condition with the probability that it would remain useable for two more winters. He stated flatly that there were no parties to whom stumpage could be sold and that the local milling option was the best method for disposing of the timber.[56]

As the Indian Office had little funding available for the sawmill operation to produce 4 million board feet, Cross' superiors in the Forest Service directed him to detail the method of operation, its costs, and the possibility of selling the timber to reimburse the Government for any special Congressional appropriation. He replied that approximately $40,000 would be needed, that amount repayable in about five years with the profits from sale of lumber. Cross suggested contracting with an outside firm with its own mill equipment to cut the bulk of the wind-thrown trees.[57]

Congress did not provide the funds to proceed with the plan outlined by Cross and Superintendent Eddy. Instead, the Forest Service proposed selling the timber on bid and forwarded to the Secretary of the Interior its suggestions for timber sale regulations to govern the sale. The Indian Office prepared the regulations, incorporating the Forest Service recommendations, and forwarded them to Secretary of the

Interior Richard A. Ballinger. Ballinger, citing the 1889 act that allowed for cutting of dead and down timber on Indian reservations, sent the regulations to President Taft, who approved them on June 3, 1909.[58]

Forwarding a copy of the recently approved sale regulations to the District Forester in Missoula, Montana, Acting Assistant Forester Raphael Zon commented as follows:

> This matter [disposal of wind-thrown and burned timber on the Northern Cheyenne Indian Reservation] has been more or less bungled from the very start, and I hope from now on there will be as little delay as possible in arranging a sale.[59]

Three years had lapsed since the wind storm had wreaked its damage on the Northern Cheyenne forest, and nothing had come of the Forest Service investigations and reports. Zon admitted inadequacies in silvicultural and locational information in those reports. He noted Superintendent Eddy's concern that something be done soon with the deteriorating timber and the Superintendent's willingness to cooperate with the Forest Service.[60]

An abrupt end to the Cooperative Agreement between the Forest Service and the Interior Department in July, 1909, precluded any such work. Forestry once again was thrown back into the jurisdiction of the Indian Office. The cooperative experience had proved beneficial, however, calling attention to the need for professional foresters in the management of the Indian timber resource. Northern Cheyenne still had its problems, and the Indian Office would have to carry out its trust responsibility.

CHAPTER III

OFFICE OF INDIAN AFFAIRS FOREST ADMINISTRATION

THE INDIAN FOREST SERVICE

Congress gave impetus to termination of the 1908 Cooperative Agreement between the Forest Service and the Office of Indian Affairs when it passed the Act of March 3, 1909. That act appropriated $100,000 for the Commissioner of Indian Affairs, under the direction of the Secretary of the Interior, to conduct forestry operations on Indian reservations. With that funding, the Indian Office could hire the necessary professional staff to conduct its own investigations of conditions on Indian forests and provide more effective management for the timber resource.

Passage of that act came at a time when dissatisfaction with the Cooperative Agreement had already begun to set in. The dual jurisdiction over forestry matters on Indian reservations meant increasing delays as the reservation-level forestry personnel first had to go through the Forest Service with any problems. If the Interior Department had to provide funding, the request was then forwarded from the Forest Service. In emergency situations, such as severe forest fires in the Lake states, the delay proved detrimental to efficient administration and may have resulted in losses to the Indians. With these points in mind, Acting Secretary of the Interior Franklin Pierce issued a letter on July 17, 1909, terminating the Cooperative Agreement.[1]

Acting Secretary Pierce did not cite problems with the Forest Service in his letter terminating the Agreement. Instead, he noted that the Department of the Interior could not assign the trust responsibility given it by law. The effect of the Agreement, according to Pierce, was to give Department of Agriculture Forest Service officials direct control

over employees within the Office of Indian Affairs. Such release of responsibility by the Indian Office could not be authorized, and Pierce stated that position clearly.[2] At the same time, he expressed the hope that the Indian Office and Forest Service would be able to continue in a spirit of cooperation.[3]

A larger controversy between Secretary of Interior Richard Ballinger and Forest Service head Gifford Pinchot contributed to delays in establishing a Forestry Unit in the Office of Indian Affairs. Other, more personal matters relating to the authority of the General Superintendent of Logging also hampered attempts to institute an organization plan for Indian Office forestry. In January, 1910, the Indian Office detailed James Carroll to take charge of Indian forestry matters. Carroll hired J. P. Kinney in February of that year as Assistant Forester under a new plan of organization that placed the Forester in overall command of the Forestry Branch, with the Assistant Forester to assume that role in the absence of the Forester.[4]

The Superintendent of Logging moved into a lesser role, taking responsibility for all utilization questions. That switch did not please Joseph Farr, then Superintendent of Logging, who protested the appearance of his name on the January, 1910, Roster of the Indian Office two notches below that of J. P. Kinney and without a title. His protestations won back the top role as the Indian Office placed Farr fully in charge of work on Indian forest lands.[5] Farr lasted only until May, 1911, when Commissioner Valentine suspended him. In September, 1911, Alfred K. Chittenden, formerly with the Forest Service and head of that agency's work on Indian reservations under the 1908 Cooperative Agreement, moved into the position of Forester within the Indian Office. He filled that position for 15 months, followed in 1913 by Forester Franklin W. Reed. Upon notice of Reed's resignation in the spring of 1914, J. P. Kinney assumed charge of the Indian Forest Service in his position as Assistant Forester. It was Kinney, however, who provided continuity to the program during those years of rapidly changing administrators, and he assumed most of the responsibility for forestry work in the field.[6]

J. P. KINNEY AT NORTHERN CHEYENNE

Newly-appointed Assistant Forester J. P. Kinney considered the Northern Cheyenne blow-down problem one of about twenty priority projects for himself and his staff. With the end of the Cooperative Agreement with the Forest Service, the Indian Office had directed Northern Cheyenne Superintendent John Eddy to change the regulations governing the blow-down sale to remove all references to administration by Forest Service officials. Otherwise, the attempted sale was to proceed with bids to be opened August 17, 1909. The date passed with not one bid being received. Superintendent Eddy pointed to the 60-mile wagon haul to the nearest railroad as a probable reason for lack of interest among potential buyers.[7]

Again, the Northern Cheyenne Superintendent requested authorization and funding for the Agency to manufacture the downed trees into lumber. He asked for $10,000 for the project to pay for Indian labor and milling costs. The Indians needed much of the lumber to construct better houses and provide flooring in some of the older log structures. Stables and implement sheds would benefit Indian ranchers, and the Agency could make needed improvements. Of the $10,000 requested, $2,000 would purchase two planers, one for the Agency mill and one for the Tribal mill, which the Indians desired to sell to the Agency. The remaining $8,000 would pay wages of two sawyers at $90 each per month, two engineers at $75 per month, and Indian loggers at approximately $2 per day. Sale to local settlers at market rates would help defray the expenses.[8]

J. P. Kinney, only a few months after his appointment as Assistant Forester in the Indian Office, traveled to Montana to review the situation on Indian forests. Northern Cheyenne was his first stop. He determined that conditions there required immediate action and wired the Commissioner for $400 to purchase a planer and matcher on the open market and another $200 for moving and resetting the Agency sawmill. Kinney sent the telegram June 15, 1910, and received approval on June 17, a considerable advance over the numerous delays that resulted from the Cooperative Agreement of 1908.[9]

Kinney emphasized the need to cut the wind-thrown timber quickly to prevent further deterioration and loss. He heartily endorsed Superintendent Eddy's recommendation to cut and store as much of the downed timber as possible, using Indian labor. The lumber would provide the needed material for an expanded Indian house-building program and manufacture of the lumber would give training to some of the Northern Cheyenne, most of whom showed an inclination toward logging and working with wood. To advance further industrial training for the Reservation's inhabitants, Kinney also promoted Superintendent Eddy's suggestion for a "pony sawmill" for training at the Busby school. Other justifications included a reduced fuel cost at the school by use of slabs and other waste from the mill and the prohibitive cost of transportation of lumber from Lame Deer for building at the school. An additional recommendation was for an automobile at the Agency to facilitate forestry work supervision.[10]

ACT OF JUNE 25, 1910

Though not of immediate consequence for Northern Cheyenne Indian Reservation, Congress passed in 1910 an act that would have far-reaching impact on Indian forestry programs across the nation in the years to follow. Sections seven and eight of the Act of June 25, 1910, provided for the sale of mature living timber, in addition to dead and down, on allotted and unallotted lands of Indian reservations other than those in Minnesota and Wisconsin. Such sales could be made under regulations to be prescribed by the Secretary of the Interior, with proceeds from timber sales going to the benefit of the Indians.

The Ballinger-Pinchot controversy and the remnants of disenchantment over the failure of the 1908 Cooperative Agreement resurfaced in the enactment of the 1910 act. Congressman James Mann of Illinois joined with colleagues to amend wording in the original bill to place the Secretary of Agriculture, rather than the Secretary of the Interior, in charge of formulating regulations for sale of timber on Indian reservations. Representatives from the Department of the Interior protested, and the wording was changed to the original.[11]

In February, 1911, a representative of the Commissioner of Indian Affairs wrote Superintendent Eddy to inform him of the new act allowing the harvest of mature living timber. To discourage misuse of the legislation the letter stated the following:

> Indian timber lands should be so managed as to afford a constant revenue which may be utilized for the benefit of the Indians. If the tribal forest lands are of limited extent, large sales cannot be made, but by judicious management a small return may be derived from products which are ordinarily allowed to waste. If the tribal forests are extensive, sales of timber should be made whenever a market is available and the conditions of the forest will not be injured by the cuttings.[12]

The Indian Office representative further urged Superintendent Eddy to take every measure possible to protect the Northern Cheyenne forests, while devising means and methods by which the timber on allotments could be used to contribute to the advancement of the allottees. Tribal forest resources also were to provide income and a means of "civilizing" the Tribe as a whole. Accordingly, the Office directed Superintendent Eddy to report on any timber going to waste on the Northern Cheyenne Indian Reservation and recommend possible sales.[13]

The Agent responded with a request to employ three persons at the Agency sawmill, recently moved to a location on Lame Deer Creek, eight miles south of the Agency headquarters. Lumber from the project would be used in construction at the Tongue River Training School, with payment for sawmill operators to come from the "Indian Schools Support" fund. Superintendent Eddy said that little of the wind-thrown timber on the Reservation remained in suitable condition for sawing, and that approval to cut standing mature timber would be desirable at the new mill setting. Again, Eddy recommended that the Agency receive authority to sell timber from the Agency mill to local settlers to help defray costs of operation and employment to Indian loggers. He also asked authority to purchase the Indian sawmill for $800.[14]

J. P. Kinney wrote a memo supporting Superintendent Eddy's request to purchase the Indian-owned sawmill on Alderson Gulch. More than 150

Indians owned shares in the mill, making it difficult to operate since none of the Indians had large enough interest in the mill to invest in its operation and repair.[15] Action on that project was delayed, however, as a representative from the Department of Agriculture's Bureau of Entomology reported a severe beetle infestation problem requiring immediate action.

BEETLE INFESTATION

The first indication of a beetle infestation surfaced in a report by Inspector S. F. O'Fallon during a routine general inspection tour of Northern Cheyenne in June, 1909. He mentioned "borers" damaging some of the downed timber and evidence of infestation in standing trees.

> There is also some disease among the standing timber, which is probably the effect of the beetle. The pine needle turns red and the tree soon dies. I saw many patches of dead timber while driving through, nearly all of it saw timber. I should judge that this dying and dead standing timber should also be cut into lumber and the tops burned to prevent disease spreading at a time of year when there would be no danger of forest fires. This matter may have been investigated by the Forest Service (USDA), as to that, however, I have no knowledge.[16]

Officials, either Forest Service or Indian Forest Service, did not show any undue concern over the beetle infestation until two years later when Josef Brunner, an employee of the Department of Agriculture's Bureau of Entomology, sent an alarming letter to his headquarters in Washington, D.C. His letter of June 22, 1911, described the situation at Northern Cheyenne as much more serious than anticipated. Eight to ten thousand trees were infested, and evidence showed 3 to 5 million board feet of timber killed by insects within the preceding five years.[17]

Brunner saw Mountain pine beetles emerging on the Northern Cheyenne forest in the spring of 1911 and estimated that damage would approximate that of the preceding year. He called the invasion ". . .threatening enough to jeopardize the entire merchantable timber supply and even the growing trees within the infested area." To counter the beetle spread,

he recommended that the Bureau of Entomology direct the cutting and processing of timber at the existing Agency mill. He also estimated a need for at least $5,000 and three more sawmills to handle the problem. It was a familiar theme, often repeated in earlier proposals for disposing of the large volume of wind-thrown timber on the Reservation. This time, however, the threat to standing live timber was even more immediate than the earlier threats of fire or decay in the downed trees.[18]

Superintendent Eddy wired the Commissioner to request purchase of three "Chandler and Taylor" sawmills and an appropriation of $10,000 to operate the sawmills in the infested areas of the Reservation. He noted two possible courses of action. All infested trees could be cut and debarked, exposing the beetle larvae to light to kill them; or sawmills could be placed in the woods to manufacture all of the affected trees into lumber for use in Indian home construction and sale to local settlers. Superintendent Eddy favored the latter approach, hence the request for additional milling equipment.[19]

For a time, the Indian Office hesitated. Second Assistant Commissioner C. F. Hauke directed Superintendent Eddy to seek outside sawmill contractors to operate in the infested areas. Hauke assured the Superintendent at Northern Cheyenne that the Indian Office would provide for purchase of the needed sawmills if no private contractors could be induced to come onto the Reservation. Superintendent Eddy made that effort but suggested that it was unlikely any operator would see a profit in cutting only the allowable marked, infested trees. In the meantime, the Bureau of Entomology kept Josef Brunner and an assistant on the Reservation marking trees which the Indians logged and hauled to the Agency mill on Lame Deer Creek.[20]

The request for additional sawmills passed through the Indian Office's Land, Education and Finance Divisions. Final approval came in September, 1911, when the Office granted authority to purchase two new sawmills from Chandler, Taylor & Company at a cost of $1,959 each and the old Indian-owned mill for $800.[21]

The Bureau of Entomology had to this time provided its investigations and consultations to the Department of the Interior at no charge.

With the formulation of plans for logging and milling of the infested timber, the Department of Agriculture determined that it no longer could carry that burden. Therefore, the Bureau of Entomology offered to furlough two of its men who could then be hired by the Indian Office for temporary assignment to the Northern Cheyenne Indian Reservation. The Indian Forest Service already had decided to send a Forest Assistant to the Reservation. The man selected for that task declined, and Superintendent Eddy conducted the beetle work with the supervision of one representative from the Bureau of Entomology and one former employee of that agency temporarily placed on the Indian Office payroll.[22]

On January 3, 1912, the Indian Office detailed Forest Examiner C. E. Dunston to the Tongue River Agency to report on the logging operations associated with the beetle work and to attempt to identify a larger market for the approximately 3 million board feet of lumber that would result from that work. Superintendent Eddy had indicated that a market existed for only 500 thousand board feet annually. Dunston also was to supervise brush or "slash" disposal. Assistant Commissioner of Indian Affairs F. H. Abbott warned Dunston that he did not want to create a fire hazard to the Northern Cheyenne forest that possibly would exceed the potential damage from the Mountain pine beetles.[23]

From Lame Deer, Forest Examiner Dunston and Superintendent Eddy sent a telegram to the Commissioner asking that the previous authority for purchase of two sawmills be cancelled. In its place, they recommended that authority be granted to contract with "local reliable parties" for logging, brush disposal, and milling. The contractor would be paid not more than $10 per thousand board feet for the total amount of the cancelled authority. The contractor would use the two Agency mills (the Government did buy the former Indian-owned mill) and would begin operations as soon as authority could be granted. The immediate need to cut the infested timber dictated that no advertising be done. Forester Alfred Chittenden and the Chief of the Land Division agreed to the proposal, and Assistant Commissioner F. H. Abbott issued the authority.[24]

THE BOSTWICK CONTRACT

The contractor recommended by Dunston and Eddy was J. H. Bostwick, an experienced sawmill operator who came to the Northern Cheyenne Indian Reservation from the Black Hills in the fall of 1911 to work at the Agency mill. Where previous costs for Indian logging and Agency milling averaged $12 per thousand board feet, Bostwick offered to do the work for $9.50 per thousand board feet. To meet that offer, he had to have use of the two Government sawmills. Bostwick agreed to use Indian laborers wherever possible and dispose of brush to the satisfaction of the Superintendent. Since peeling the infested timber and leaving it on the ground cost $4.50 per thousand board feet, it seemed advantageous to Forest Examiner Dunston to mill as much of the timber as possible and pile it at the mill for sale to a local market for $16 per thousand board feet. To oversee any contract or other forestry activities on Northern Cheyenne, Dunston once again recommended that the Indian Office assign an Assistant Forester to the Agency.[25]

Northern Cheyenne Indian Reservation still had no permanent forestry personnel since J. M. Bedford had declined the Forest Assistant position and Superintendent Eddy had asked for a delay in any other appointment. Dunston, seeing an immediate need for someone to supervise forestry operations on Northern Cheyenne after his departure, temporarily hired a white man, Harry Mintz. Mintz had worked in sawmills, but had no technical forestry knowledge. Dunston believed that it was more important to have someone with business training to supervise Bostwick's milling and to market the resulting lumber.[26] The Indian Office disagreed. Citing the necessity to hire through the Civil Service, Dunston's superiors in Washington directed him to terminate Mintz.[27]

Of the approximately $10,000 allowed for combating the *Dendroctonus* infestation, $4,918 was allocated for the logging and milling. On February 8, 1912, Superintendent Eddy entered into a contract with J. H. Bostwick to log and manufacture 500 thousand board feet of beetle-damaged timber for $9.50 per thousand board feet. All of the sawing was to be done with the Agency mill, then located five miles east of

Lame Deer on the South Fork of Alderson Gulch.[28]

In his official report on forestry activities at Northern Cheyenne in 1912, Dunston noted other personnel problems related to the beetle work on the Reservation. Hugo Knieff, the Bureau of Entomology expert assigned to the Northern Cheyenne work, and his partner George Vogt, temporarily employed by the Indian Office, diligently located and marked trees infested by the Mountain pine beetles. Since a limited amount of money for the project had been approved by the Indian Office ($9,918), Knieff directed crews to peel all of the marked trees. These amounted to 2600 trees on the North Fork of Alderson Gulch, 5700 on the South Fork of Alderson Gulch, 900 trees in Rye Grass and Greenleaf Gulches, several hundred trees in Soldier Gulch, and about 100 trees on the east slope of the divide separating Tongue River and Rosebud Creek. Those directions to peel all trees ran counter to Superintendent Eddy's plans.[29]

Knieff directed part of his crew of peelers to debark trees in the vicinity of the Bostwick logging contract area. The peelers felled non-merchantable sized trees which interfered with the contractor's skidding operations. When Bostwick refused to sign a statement releasing the Superintendent from all damages resulting from the peelers' interference, Eddy was forced to stop Knieff's crew and order them into less accessible areas. Knieff protested the action as an interference with his job of ridding the forest of the beetle menace. When Knieff balked at obeying the Superintendent's instructions, Eddy assumed complete authority over all of the work and recognized Knieff only in an advisory capacity as a representative for the Bureau of Entomology. Much of Knieff's work was transferred to Vogt as an employee of the Indian Service, and the conflict ended.[30]

Northern Cheyenne Tribal members did most of the cutting and brush piling for Bostwick. For their labor, Bostwick paid $1.50 per thousand board feet. Forest Examiner Dunston praised most of their work, noting that stumps were cut 16 inches or lower and most of the trees were fully utilized. Brush piling was excellent, with the exception of a few piles placed too near to living trees. Dunston's only criticism was

that logs often were cut into the wrong lengths.[31]

Bostwick employed white men to skid and haul. He justified that course of action by asserting that the Indians did not have horses large enough to handle the loads. Nor did they have the skidding tongs or sleds that were required for the work. Two men and two teams did all of the skidding and hauling, the average haul not exceding one-half mile. For this work, the men received $2.50 per thousand board feet.[32]

At the mill, all of the slabs were burned and the lumber was piled for drying and storage. Dunston traveled through the Rosebud Valley and obtained commitments from some area ranchers to purchase lumber while others merely expressed an interest. He estimated that 200 thousand board feet could be sold to those ranchers in 1912. He calculated that an additional 300 thousand board feet would be needed for irrigation-related construction and building at the school and Agency. Dunston also repeated an often-heard call for lumber to provide better housing for the Northern Cheyenne people of the Reservation.[33]

The Bostwick timber contract terminated on June 30, 1912. The clerk in charge at the Northern Cheyenne Agency reported that the contractor had cut more than 410 thousand board feet of insect infested timber, despite heavy snows and unusually cold weather.[34]

Indian Office Lumberman E. Hamilton, assigned by Forester Chittenden to investigate forestry matters at Northern Cheyenne, arrived shortly after Bostwick finished cutting under the contract. Hamilton reported that most of the lumber was piled at the Agency mill. He complained that the piles were too close together and too flat. His inspection of the cutting area revealed that little of the brush had been piled and none burned. He also noted that nearly 600 thousand board feet of sawlog timber had been peeled and left on the ground. He recommended cutting the timber into logs and decking it, with the eventual goal of sawing the material into lumber which could be piled and held for sale.[35]

Secretary of Agriculture James Wilson sent a letter to the Secretary of the Interior describing the activities of the Bureau of Entomology

in the cooperative beetle control work on the Northern Cheyenne Reservation. Aside from the problem of piling brush, Wilson considered the effort successful, though results would not be known for another year. He also inserted an apparent compliment to the Northern Cheyenne. He quoted Mr. Brunner as stating that ". . .the Indians cut and barked the trees as satisfactorily as white men, if not more so. They proved as faithful workers as can be found anywhere."[36]

The total cost of the program was estimated by Superintendent Eddy at $9,908.59. In comparison, he estimated the value of lumber produced from the activities to be $9,005.06. He contacted Forester Chittenden in August to suggest another inspection, which he believed would show that the Agency had corrected all of the deficiencies evident in Lumberman Hamilton's report.[37] Annual reports from Northern Cheyenne in 1913 and 1914 indicated that the beetle control program had been a success. An additional $200 was needed to supplement the program in fiscal year 1913, and $150 was needed for cutting and debarking trees in 1914. Josef Brunner of the Bureau of Entomology visited Northern Cheyenne Indian Reservation in May of 1913 and reported that the earlier eradication program was more successful than he had believed it could be. A few large trees were infested by a combination of *Ips* and *Dendroctonus* beetles and larvae. Less than 400 trees were infested by the beetles in the timbered area between Lame Deer Creek and Tongue River. Indians had located and marked all of those trees showing signs of infestations; they were adamant that steps be taken to control the new beetle outbreak. Eugene Standing Elk cruised and marked most of the timber, and Dr. Brunner pointed to his efforts as exemplary of an attitude that should be encouraged among the Indians of all reservations where the timber resource was important.[38]

Brunner recommended that the Indian Office authorize the funds to treat the relatively small outbreak in 1913, both to insure the success of the earlier effort and to support Eugene Standing Elk's interest and labors. He expressed the following views with regard to the insect control work at Northern Cheyenne:

> By the way, if anyone wanted to study forest insect control as practiced in this country, send him to Lame Deer, telling him in advance how much it has cost there and how long it took to end the trouble. The achievement there is one to be proud of and as a matter of fact I was astonished myself as I looked over the damage which had been done and considered the small cost with which it was ended.[39]

Ultimately, the beetle eradication program on the Northern Cheyenne Indian Reservation proved that cooperation was an essential ingredient in effectively managing an Indian-owned forest. The Department of Agriculture and the Department of the Interior, with only minor administrative problems, were able to agree on an appropriate course of action and carry it to fruition. Both Departments expressed pleasant surprise at the degree of interest shown by the Northern Cheyenne Indians in preserving the timber and attributed much of the success of the program to efficient Indian laborers and the care taken to follow up on the project in subsequent years.

PORTABLE SAWMILLS AND INDIAN HOUSING

In 1913 there were three portable sawmills on the Northern Cheyenne Indian Reservation. One small mill, purchased in the first quarter of 1913 for use at the Tongue River Training School at Busby, went unused as a boiler originally designated for use with the outfit was needed for the physical plant at the School. The two other sawmills were the "Indian" mill and the "Agency" mill. The Government purchased the former from a group of Northern Cheyenne Indians in 1912. Located in Alderson Gulch about six miles from Lame Deer, the mill had a capacity of approximately 6,000 feet of lumber per day and was often out of repair. The Agency sawmill was a Chandler-Taylor product with a 25 horse-power boiler and a capacity of 1,000 feet of lumber per hour. It served originally to fulfill demands for lumber needed in the irrigation project and, later, for the Bostwick contract to manufacture beetle-damaged and wind-thrown timber.[40]

A significant use of Agency sawmill lumber was in the production of

materials for Indian housing. Housing concerned many of the early Superintendents at Tongue River Agency, and much of the correspondence concerning disposal of the wind-thrown and beetle-infested timber on the Northern Cheyenne Indian Reservation mentioned the possibility of using lumber manufactured from the damaged trees in erecting suitable houses for the Reservation's inhabitants. Commissioner of Indian Affairs Richard Valentine gave added impetus to the program when he sent a circular to all Indian reservations in September, 1912, demanding the Superintendents formulate plans for using the Indians' timber resource in the construction of sanitary housing.[41] The Superintendent at Northern Cheyenne immediately began an incentive program in which the first 50 Indians to express an interest in constructing new residences would receive $50 worth of hardward, windows, and doors if they began work immediately and had their structures ready for such additions within 90 days from the time they received their orders for lumber and logs from the sawmill.[42]

Upon receiving the first 50 requests for authorization to construct new houses, the Forest Officer was to mark trees for cutting or designate peeled logs from the beetle cleanup operation which would be satisfactory for construction. The Indians had to agree to pile all brush resulting from new cutting and assist in suppressing any fires that might occur in the timber. The Agency agreed to provide housing blueprints and bricks for those who agreed to haul three loads of wood to the kilm. By October, the Superintendent had on file over 70 names of Indians wanting to build new houses.[43]

For fiscal years 1912 through 1914 the Government mills produced over 846 thousand board feet of rough lumber, 118 thousand board feet of finished lumber, and 211,000 shingles.[44] Although much of that lumber went to Indian and Agency use, the Tribe managed to sell almost $3,000 worth of lumber to area settlers.[45] Rough lumber sold for $16 per thousand board feet, while planed material brought $35 per thousand board feet.[46] In his 1914 Annual Report, the Superintendent estimated that from 5 to 8 thousand board feet of lumber could be sold to outsiders adjacent to the Reservations. The profit from those sales would

provide money for operation of the Agency sawmill in manufacturing lumber to construct Indian houses.

In 1915 the new Agency Superintendent, John A. Buntin, estimated the Reservation forest at 70,000 acres, with a stand of approximately 490 million board feet of merchantable timber. The Agency mill that year produced 252,884 thousand board feet of lumber and 252,000 shingles. The Government cut for its own use and for Indian use approximately 200 thousand board feet of timber, and an additional 50 thousand board feet was sold for $850 to generate operating income for the mills.[47] Lumber sales were not sufficient to keep the mills producing the needed lumber for housing construction, and it was necessary to request authority from the Washington office to expend funds to employ Indian laborers to cut and haul timber for the sawmills and to pile slash. In the spring of 1914, the mills ran short of lumber and the Agency had to deny requests from neighboring settlers to purchase Reservation lumber. A typical response, indicating priorities, is shown by the following excerpt from a letter to a resident at Lee, Montana:

> I regret that at the present time we have no lumber for sale. We have only recently secured money to operate the sawmill, and have been busily engaged sawing out lumber for the irrigation system here and for the building of two government cottages.
>
> The Indians also are very anxious to secure lumber to build houses, so that, until these requisitions are filled, it will be impossible for us to dispose of any lumber.[48]

In July, 1914, the Commissioner of Indian Affairs directed Lumberman Mark Burns to assess the forestry program on the Northern Cheyenne Indian Reservation. Lumberman Burns produced a map of the Reservation showing forested areas, estimating 490 million board feet of timber with a total valuation of $735,000, based on a minimum stumpage fee of $1.50 per thousand board feet. He guessed that nearly 80 percent of the timber was "very young" and that 50 percent of the forest was comprised of "very short and scrubby and inferior" trees. Though he believed the Reservation contained sufficient merchantable timber to offer a sale, he cautioned that the distance from a railroad and inadequate shipping facilities

would raise costs and result in a loss and sacrifice to the Indians. Most of the young trees would not produce more than two logs, so he recommended that the Agency delay any marketing attempt until the trees matured. He also indicated that a prevailing bad timber market would mean that no bids likely would be received.[49]

Lumberman Burns agreed that the best way to use the mature Reservation timber was to maintain small portable mills to cut for Agency and Indian housing needs. The "Old Indian Mill" was completely out of repair and had not been used for some time. A considerable outlay of funds would be necessary to bring the mill into useable condition. The Agency sawmill and the sawmill at the Training School at Busby, however, were in good running condition. Previous cutting for those mills resulted in some high stumps and considerable unpiled brush. This, according to Burns, was due to lack of interest on behalf of the Forest Guard in immediate charge, as the Superintendent had issued specific orders to pile all slash and insure proper cutting.[50]

Forest fires had not posed serious problems on the Northern Cheyenne forest since 1886, when the Agency reported fires covering much of the Reservation. Lumberman Burns noted that insects seemed to pose a greater threat than fire on the forest. He was not going to take a chance on fire, however, and recommended that the Agency construct two ranger cabins in the wooded areas to aid in protection efforts.[51] Assistant Forester J. P. Kinney emphasized the need for such cabins as early as 1910, when he first joined the Indian Office staff. Other directions for protection against fire included patrolling uninhabited areas, constructing telephone lines, and building trails.[52] At Northern Cheyenne temporary Forest Guards did most of the patrolling, but the absence of acute fire problems delayed construction of ranger cabins.

In January, 1915, the Commissioner of Indian Affairs appointed a "Supervisor of Logging" at Tongue River Agency, and fire protection became an immediate concern. Oscar Waddell, the new appointed Supervisor, commented as follows:

> As you know, there never has been any effort made to patrol the forest for fire protection nor any fire lines or trails laid out or constructed. No ranger stations have been established nor telephone located with view of convenience for reporting fire or other trouble. I will endeavor to remedy this. . . .[53]

The new Supervisor of Logging also addressed some of the problems the Agency had with regard to Indian housing. The mill did not have seasoned lumber on hand in late winter and early summer when there was a demand for flooring. Green timber was not suitable, and sawing was not economical when the logs were frozen. After reviewing previous house construction on the Reservation, Waddell decided in favor of building squared log houses for advantages in availability of material, simplicity of construction, "needs of the average Indian," and durability.[54]

In June of 1916 Superintendent Buntin reported that 15 new Indian houses were under construction. He asked the Washington office for authority to expend an additional $450 to run the Agency sawmill to produce lumber for the project. These funds, approved by the Commissioner, supplemented $673.81, which was collected from sales of lumber. Four-fifths of that lumber was sold to Indians who had money in account at the Agency. The Agency sold the rest to white people at a cost "considerably beyond production" costs. Still, the Superintendent listed the overall housing condition on the Reservation as "exceedingly bad." He attributed much illness, particularly tuberculosis, to poor house construction and lack of ventilation. Upon receipt of a large supply of window casings, door casings, windows, screens, and hardware, he hoped to alleviate much of the problem.[55]

Apparently the Supervisor of Logging position did not remain filled long at the Agency. In June, 1916, an inspector from the Indian Office reported that no special forestry force was employed on the Reservation. He added that there was no apparent need for permanent forestry staff.[56] Both the Busby School mill and the Agency mill were in operation at that time. School personnel finally found power for the mill from a 25 h.p. Buffalo-Pitts steam tractor. Fallers did not pile all of the brush and

left a few of the stumps too high. Otherwise, inspection revealed no serious problems. At the Agency mill, recently moved seven miles east of the Agency on the Lame Deer to Ashland road, seven employees, four of whom were Indian, sawed an average of 4,000 to 5,000 feet per day.[57]

Indians, given preference, did most of the logging for the Agency mill. They usually cut the logs within one mile of the mill, concentrating their harvest near the Lame Deer-Ashland road over which they hauled the logs. Apparently, the loggers employed their own discretion in selecting trees to cut. The sawyer scaled the logs in the woods, and the choppers were paid on the basis of that scale. When hauled, the logs were re-scaled to establish a rate for the haulers. All of the scaling was done with a Doyle Scale rather than the Scribner Decimal rule. Julian Wetherbee, reporting on Northern Cheyenne timber management by the BIA, recommended that the scaling procedure be changed to the Scribner. He also criticized an apparent lack of consistency in pricing the product of the Agency sawmills:

> There seems to be no fixed price for lumber. Some is given to Indians as Gratuities while it is sold to others at different prices. The usual price seems to be about $12.00 per M for rough lumber and $2.00 per M for shingles. The price for lumber sold to whites is considerably higher.[58]

None of the available documents explained those apparent discrepancies in charges for lumber from the Government mill.

The Indian housing program suffered a severe setback in November, 1917. The Agency sawmill burned, destroying most of the milling equipment, including the sawmill and an edger. The planer and boiler, although damaged, remained in repairable condition. Superintendent John Buntin of the Tongue River Agency lost no time in requesting replacements for the lost equipment. After an abortive attempt to secure a mill that had been purchased for the Shoshone (Wind River) Agency, the Indian Office finally obtained a mill from the Blackfeet Agency. A request for bids for a power plant and sawmill accessories resulted in an award to the Portland Machinery Company in March, 1918, and the Northern Cheyenne Indian

Reservation prepared to resume an aggressive home building program. Superintendent Buntin learned the value of fire protection and ordered a spark arrestor for the new sawmill. The money to pay for the new mill came from the account "Indian Money, Proceeds of Labor."[59]

WORLD WAR I AND AFTERMATH

Another problem hindering the housing program in 1917 was a labor shortage at the Agency. United States participation in World War I siphoned off much of the trained help available to the Agency for its forestry-related work. Therefore, when the U.S. Department of Agriculture's District Forester F. A. Silcox requested a "Military Reconnaissance and Road Report" for the Northern Cheyenne Indian Reservation, the Superintendent respectfully declined on the basis that he did not know what the report required and was certain that he did not have the personnel to assemble the report. A subtle bit of arm-twisting followed, in which the District Forester pointed to other agencies which suffered the same man-power shortages and yet complied with the military reconnaissance request. (This was an era of deep suspicion over anti-American behavior in which even off-handed comments resulted in accusations of treason.) The Tongue River Agency Superintendent eventually sent a terse reply that whatever might be commanded through his Department would be "cherfully" done.[60]

The end of World War I brought an end to severe labor shortages, but the Indian Office still refrained from positioning a permanent Forester at the Tongue River Agency. Forest utilization remained much the same after the War. In 1921 the Agency mill cut 250 thousand board feet of lumber for use in constructing Indian housing. The Indians would cut the timber into logs, which they would then haul to the Agency sawmill. At the mill they assisted the Agency sawyer and engineer in producing the lumber. They then paid one-fifth of the lumber produced as toll to the Government, so the entire cost of the production of lumber was paid through Indian labor.[61]

The Agency maintained two sawmill operations in 1923, one at Logging

Creek and the other at Soldier Gulch. Indian crews cut logs for their own use and hauled them to the mill for manufacture into lumber for building houses. They cut on Trail Creek, East Fork of Muddy Creek, Logging Creek, Soldier Gulch, Stebbins Creek, and Tie Creek. Later that year, the Agency dismantled the mill at Logging Creek and moved it to the mill site at Soldier Gulch. Another sawmill setting that year was at Stebbins Creek. It appears that two sawmills were in operation, probably the one formerly at the Busby Day School and the new mill that replaced the Agency mill, which had burned in 1917.[62] An additional private sawmill also operated on the Reservation under an authorization from the Commissioner's Office dated November 1, 1916. Under that authority Ernest Taylor brought his mill onto the Reservation in the southwest corner, sawing for the Indians at $6 per thousand board feet, and the Indians cut and hauled the logs. For an additional $6, he would cut and haul the logs himself.[63]

In the early 1920's, the pattern of utilization was for the Indians to cut logs for their own use, and the Government mills or private mills would move to the cutting area to manufacture lumber for either a toll or cash payment. There were no significant timber sales and no full-time professional foresters on the Reservation to supervise cutting, milling, or slash disposal. The Agency Farmer did that job. Interest in forest products was increasing across the country, however, and the boom in the construction industry had at least a minimal impact on the forestry program at Northern Cheyenne as the Indian Office and potential timber product users took a closer look at the Northern Cheyenne forest.

Nationally, the outlook for the timber products industry improved immensely after the War. After a brief slump in construction in 1919, the industry boomed. Shortages as a result of the War, an increase in population, and sudden shifts in population resulted in increased housing starts. Construction in the years from 1921 to 1929 grew at an average annual rate of 6.7 percent.[64] Transportation, however, was a key factor in marketability of Northern Cheyenne timber.

Optimism abounded in the Tongue River area when a group of Virginia businessmen announced plans to construct a railroad between Miles City,

Montana, and Casper, Wyoming. Intending to tap the coal fields of Rosebud County, Montana, the railroad company actually began construction in 1923.[65] As construction proceeded, Indian Office personnel seriously considered marketing Northern Cheyenne timber.

In May, 1923, Northern Cheyenne Superintendent Owen Boggess wrote to the Commissioner of Indian Affairs to inform him of the plans for a railroad along the Tongue River and through Ashland. Superintendent Boggess asserted that the railroad would require a considerable amount of timber, both as stumpage and as manufactured lumber. He also believed that Northern Cheyenne timber, "about the best" available for sale in the region, could be marketed for about $3 per thousand board feet for stumpage, with a higher market rate for lumber from Reservation sawmills. He noted that some reports on file at the Agency indicated there was more timber available on the Reservation than the Indians could use for home improvements. Other reports suggested that there was sufficient quantity only for meeting local demands. Said Superintendent Boggess:

> I do not want to go into a proposition like this blindly and do not know anything of the timber business from the standpoint of estimated standing timber.
>
> I will, therefore, appreciate it if the Office could detail some competent timber man to come here and go over the timber on the reservation and make us an intelligent estimate of the amount that there is here so we can definitely determine whether we have timber for sale.[66]

Lumberman Mark Burns inserted a memo in the files supporting the need for a survey at Tongue River and concurring in Superintendent Boggess' estimation that a railroad through Ashland would make Northern Cheyenne timber more readily marketable.[67]

Superintendent Boggess was able to secure one small sale of timber. Under Section 12 of the General Forestry Regulations of 1918, the Superintendent authorized sale of 30-40 thousand board feet of pine at the rate of $3 per thousand board feet. The sale was to Ashland Post No. 115 of the American Legion, which intended to saw the timber at the Ashland mill and pay Indian laborers to cut the logs and haul them to the mill. The Legion representative asked to have the timber with no

stumpage fee since the lumber was intended for use in developing the Fair Grounds, immediately across Tongue River from the Reservation and whose facilities were used free of charge by the Indian residents of the Reservation. That request was denied by both Superintendent Boggess and the Commissioner of Indian Affairs.[68]

Optimism for a north-south railroad through the Tongue River Valley continued until about 1929, when it became obvious that the railroad would not be completed. The original investors encountered economic difficulties and, by 1929, had abandoned the project, leaving construction equipment and an unused railroad bed to deteriorate. The anticipation of that railroad, however, had a beneficial effect upon the forestry program at Northern Cheyenne.

Unable to obtain assistance from the Washington office, new Superintendent Charles B. Lohmiller wrote the Forest Supervisor at Custer National Forest asking cooperation in evaluating the resources at Northern Cheyenne and offering suggestions for possible marketing. Alva Simpson, Forest Supervisor, responded favorably, suggesting that the Forest Service and the Indian Service not compete in timber sales along the Tongue River. In Simpson's words, that meant ". . .we [Indian and Forest Service] should both aim to make the public compete for the timber rather than let the public place the two areas in the position of competing for the timber trade."[69]

Superintendent Lohmiller forwarded a copy of the Forest Service's response to the Commissioner of Indian Affairs. The Commissioner, however, responded with quotations on timber volumes from Mark Burns' 1914 report (450 million board feet at a value of $750,000). He also stated that the Indian Office was aware of the condition of "ripe" and beetle-infested timber on Northern Cheyenne, but that no timber should be offered for sale until sufficient demand developed for it. Still, he offered no professional forestry position for the Reservation.[70]

A severe fire season in 1925 called attention to the need for professional forest management on the Northern Cheyenne Indian Reservation. E. W. Hartwell, Junior Forester from the Custer National Forest, was

placed on temporary assignment to the Reservation in order to help the Indian Service review timber conditions. He noted that a fire in 1925 had burned nearly 30,000 acres of timberland. Increased beetle presence also was noted. Hartwell recommended to the Agency Superintendent that he make use of Forest Service documents relating to the prevention and suppression of fires in western yellow pine forests. He also suggested that the Superintendent conduct a timber survey and establish a management plan before a heavy demand for Reservation timber developed. Again, he emphasized the need for cooperation between the Forest Service and the Indian Office.[71]

In August, 1926, the Indian Service sent their own representative to review timber matters on the Northern Cheyenne Indian Reservation. Lee Muck, Forest Valuation Officer, cited the earlier Burns survey as being substantially correct in the estimation of the volume of timber on the Reservation. Of an estimated 464,000 acres on the Reservation, 125,000 acres were commercial, 55,000 acres scattered timber, and 284,000 acres open grazing and agricultural. Muck reported that the commercial timberlands, consisting almost entirely of yellow pine, averaged approximately 6 thousand board feet per acre and was the best quality timber between the Rocky Mountains and the Black Hills. In Townships 2 and 3 South, Ranges 42 and 43 East alone, he estimated that 400 million board feet of timber grew on slopes that could be easily logged by means of a logging spur from the proposed railroad up Tongue River Valley. The scattered timber was of comparable quality to that in the commercial areas, but was not concentrated enough to allow for commercial exploitation. He recommended instead that scattered stands be used to support small, local milling operations in the development of adjoining farm and grazing lands.[72]

The Forest Valuation Officer had criticism for the conduct of forestry operations during and after the fires of 1925. The Northern Cheyenne Agency spent $4,779.37 in controlling those fires. Muck surveyed the burned areas and noted that the work on fire lines would indicate that the Agency probably received fair value for its expenditure.

Muck called the results ". . .all that could be expected from unorganized effort." The fires apparently started from lightning strikes, and the Agency had crews on the fire within a day after they started. Still, Muck believed that losses, estimated at $35,000 in timber and 30,000 acres of forage, might have been reduced through a more efficient organization.

> . . .every effort possible was made to control the situation. However, owing to the absence of any form of forestry organization, the inevitable occurred and the very thing happened which is always bound to happen when forest fires start on areas where there is no organized system of control. The losses sustained by the Tribe during the fire season of 1925 would have paid for a forest organization for a good many years, and it is regretted that more effort has not been made in this connection.[73]

Utilization of timber following the fire also brought organizational deficiencies into focus before Muck's critical eye. Anxious to avoid total loss of the burned timber, the Superintendent encouraged cutting the damaged trees for local use. Upon examining two of those cuttings, Muck discovered that the unsupervised fellers were cutting only green timber adjacent to the burns, leaving the damaged material standing. He estimated that nearly 1 million board feet had been cut, only 250 thousand board feet of which had been processed at the portable sawmills. Small, scattered cuttings also gave rise to the possibility that much of the timber would be lost through deterioration before it could be sawed at the mills. In addition, the Forest Valuation Officer noted that only choice logs were selected, and stumps averaged 2 to 3 feet in height. Muck advised the Indian Office to permit future cutting only in the burn areas and to provide proper supervision to insure proper utilization. Muck suggested that professional supervision would sharply reduce the potential loss from the 1925 fires, as fuel wood and logs could benefit local users.[74]

Lee Muck emphasized his recommendations with the following statements:

> This forest has a potential value of about $1,500,000.00, and the greatest care possible should be exercised to protect and conserve it, in order that it may prove a source of revenue when the time has arrived for its development.
>
> There is no forestry organization on the Tongue River Reservation, in spite of the fact that the forest is one of the chief assets. However, it is my opinion that an organization should be developed just as soon as possible. The work is such that a man with both forestry and grazing experience is required.[75]

Lee Muck's report on conditions at Northern Cheyenne also displayed considerable foresight in relation to the potential problems of allotting the Indians of the Reservation. The allotment procedure had been authorized by an act of Congress approved June 3, 1926 (Public Law No. 330, 69th Congress). Muck warned that the classification of lands as agricultural, grazing, or timberlands required extreme care so as to avoid the "serious danger" of breaking up a fine, natural forest with the potential for yielding nearly 10 million board feet of timber annually on a sustained yield basis and all of the fuel and lumber products necessary to develop the Indian community. Referring to the lands located in Townships 2 and 3 South, Ranges 42 and 43 East, Muck declared that it would be a serious mistake to allot any of the lands in that area, since they were at least 40 percent forest lands and their greatest value was in the continued production of timber.[76]

The Indian Office's response to Lee Muck's recommendations would have an enormous impact on the conduct of forestry activities at Northern Cheyenne for decades to follow. Muck himself had been confronted by Tribal members requesting that the Indian Office work to insure the future welfare of the timber asset, and noting particularly the damage from the recent unregulated utilization. The task confronting the Commissioner and his staff was clearly outlined, and the time had come for action.

CHAPTER IV

THE ADVENT OF PROFESSIONAL FORESTRY ON NORTHERN CHEYENNE

Since the creation of the Northern Cheyenne Indian Reservation, the Government had done a fine job of responding to crises regarding the Reservation forests. Fences had been constructed to eliminate grazing trespass, and adequate crews were mustered to combat fire. Government sawmills provided most of the lumber necessary for local development, and the Indian Office put large sums of money into insect control. Still, there was inadequate supervision of timber cutting and brush disposal; lack of a fire plan for preventing, reporting, and effectively attacking fire; and no plans looking to the future for marketing or local utilization of the forest resource. Forest Valuation Officer Lee Muck, in his 1926 review of the Reservation forestry program, underscored the loss which had resulted from the absence of a professional forester and an organization program of forest management.

In response to the continued need for a professional forester, the Indian Office authorized the position of Senior Forest Ranger at the Northern Cheyenne Agency. Donald E. Harbison assumed that position in the spring of 1927, only nine months after Muck's scathing report of forestry operations on the Reservation.

Almost immediately, the new Forester compiled a report of improvements necessary for effective administration.[1] His first recommendation was for construction of two 40-foot lookout towers. One was to be located in Section 26, Township 3 South, Range 43 East; another was to be built in Section 17, Township 2 South, Range 43 East. Both were to be connected by telephone line to the Agency in Lame Deer, and a small cabin was to be constructed at each for use by fire guards stationed at the towers during the fire season. In addition, Harbison suggested two other potential tower sites: one in Section 23, Township 4 South, Range 41 East, and the other in Section 8, Township 5 South, Range 42 East.[2]

Harbison reviewed previous fire reports and concluded that it would be necessary to purchase enough fire-fighting equipment to supply a 300-person crew. To transport crews and supplies to the fires he recommended acquisition of a "motor truck," and he recommended a "Ford roadster with delivery body and auxiliary gear" for his own use in supervision. To house the Forest Ranger and his family Harbison suggested construction of a five-room house with a bath, garage, fence, and outbuildings. He estimated that the cost of the house, lookouts, trucks, and fire equipment would not exceed $6,285.[3]

In 1928, the Northern Cheyenne Indian Reservation Agency produced an Annual Forestry Report, the first ever to be compiled by a professional forester on the Reservation. Written by Donald Harbison and approved by Superintendent C. B. Lohmiller, the report indicated that the Agency was not able to implement Harbison's recommended fire control measures immediately. Forest Guards, employed as "irregular labor" (seasonal), patrolled the forests daily on horseback and had authority to hire fire-fighters as necessary to suppress fires. The Agency still maintained no permanent lookout stations, and equipment on hand at the Agency would supply only a 100-man force. Fortunately, only two fires occurring during the year, neither of which presented major problems, and both of which were presumed to have been started by lightning.[4]

The report indicated that the lone professional forester at the Agency should have no problem in handling the forestry work. There were no timber sales. Grazing management and administration were under the direction of a Superintendent of Livestock. There was no road or trail construction and maintenance attributed to forestry. Telephone construction and operation also was administered outside the Forestry office. The principal function of the Forester, then, was to organize fire prevention and suppression efforts and to supervise logging and milling operations. An old sawmill, which had been recently purchased by the Birney Indians, was producing approximately 270 thousand board feet in 1928. The Indians provided all labor except that for the sawyer position.[5] The total Agency costs for operating its forestry program for

the year amounted to only $2,489.10.

In 1929, Donald Harbison was transferred to the Navajo Agency and W. R. Centerwall replaced him as Senior Forest Ranger. Disturbed by the practice of individual Indians cutting timber from Tribal lands, having the logs sawed for toll at the Birney Indian mill, and then selling the lumber, Centerwall issued a memorandum forbidding that practice. Henceforth, no Timber Cutting Permits would be issued for Indians to cut logs in excess of the amount they needed for their own building and home improvements. Permits to sell would not be granted after September 5, 1929. In addition, the new Forestry officer directed that all timber must be marked before cutting, with no stumps to be cut higher than 14 inches and all brush to be piled and subject to inspection.[6]

The decision not to allow individual Indians to secure profits from Tribal resources probably came as a blow to some of the industrious members of the Tribe who secured or supplemented their income in that fashion. Unemployment, as noted in most of the annual reports from the Superintendents, was an acute problem on the Reservation. The policy with regard to marking, cutting, and slash disposal, however, was not new. It merely emphasized that problems continued in those areas.

In the fall of 1929, the Indian Office sent two of its professional foresters to the Northern Cheyenne Indian Reservation to reexamine the findings of a land classification report submitted earlier that year which listed only 48,000 acres of timberland on the Reservation. Forest Valuation Engineer Lee Muck and Logging Engineer-at-Large William Heritage accompanied Senior Ranger W. R. Centerwall on a tour of the forest. The land classification work was being done prior to allotment under the Act of June 3, 1926. While at the Reservation, Heritage reported shortcomings in the fire protection available to the forest. The greatest problem was the lack of funds available for construction of telephone lines into the timbered areas, for roads to be maintained for forest protection purposes, and for adequate salaries for Forest Guards. A new truck was needed, as well as additional fire-fighting tools. He reiterated earlier suggestions for construction of two lookouts.[7]

Problems in the range management program at that time also resulted in undergrazing on the forest. The heavy growth of grass and dense stands of reproduction increased the chances that any fire on the forest would be a serious one. To alleviate that threat, Heritage recommended that telephone lines and new roads be run into the forest and connect the two proposed lookouts. Fires, then, could be discovered, reported, and suppressed before they could reach uncontrollable size.[8] As a preventive measure, the Logging Engineer recommended that the Senior Forest Ranger draw a map of the Reservation, plat grazing units, and promote more grazing, especially by sheep, on the Indian lands.

Still anticipating that the railroad along Tongue River would be completed, the professional forester advised Senior Forest Ranger Centerwall to compile all of the data that would be necessary to write a timber sale agreement for trees on the east slope of the divide near Tongue River. Other timber on the Reservation appeared to the visiting forester to be suited best for Agency and local Indian use. Only one sawmill operated near the Agency at that time. It was a small, portable mill belonging to the "Burney Indians" and was powered by an Agency-owned "Case" tractor. The Agency provided a professional sawyer and an assistant for a 20 percent toll of the cut lumber. Heritage believed utilization had improved with the addition of a professional forester to the Agency staff. However, he noted continued problems with high stumps and brush piling. Overall, Senior Forest Ranger Centerwall was doing an admirable job, but he needed more money to secure proper protection of the Northern Cheyenne timber resource.[9]

W. R. Centerwall's Forest Fire Protection Plan for 1930 reiterated the need for additional equipment and expenditures for capital improvements. He added another lookout tower to the list of proposed projects, however, noting that the need for added protection became obvious with completion of the special forest land classification.[10]

Allotments still had not been made on the Northern Cheyenne Indian Reservation, as officials were awaiting the outcome of the land classifications. Allotments were issued between 1930 and 1932, giving the

foresters a reprieve from the problems associated with allotments--problems that would span more than a decade.

The reclassification of forest lands resulted in something of a revelation for W. R. Centerwall. The 1929 Annual Report of Forestry for Northern Cheyenne listed an estimate of 525 million board feet of timber in the Reservation forest. Covering approximately 48,280 acres and appraised at a stumpage value of $3 per thousand board feet, the total value of the timber was estimated to be $1,575,000. Following the work of the Reappraisal Commission, the 1930 Annual Report posted 85,000 acres in timberland, with only 300 million board feet of timber. Stumpage values were downgraded, probably because of the onslaught of economic depression across the country, to $2.50 per thousand board feet. Total timber value, then, amounted to only $750,000.[11] The $2.50 figure was listed as temporary, and the report concluded that it would rise to as much as $4 per thousand board feet if the railroad were to be constructed through the Tongue River Valley. That hope was long in dying as the nearest railroad was to Colstrip, 28 miles from Lame Deer, and there was no prospect for an extension to the Reservation. Transportation, then, continued to be a major limiting factor in the marketing of Northern Cheyenne timber.

REORGANIZATION AND GRAZING MANAGEMENT

The absence of a timber sale program allowed the Agency Forester to concentrate on forest protection and supervision of the Agency sawmill and Indian logging activities. The Agency Forestry staff was still limited in 1930. A sawyer, sawyer's helper, and two laborers worked at the new Agency sawmill, purchased in May of 1930 to replace the dilapidated Indian-owned mill which was put in storage at the Agency. During that fiscal year they cut over 200 thousand board feet of lumber, 75 thousand board feet for the Agency and nearly 117 thousand board feet in toll (20 percent) for Indians using the lumber in home improvements. In addition to the sawmill staff, three full-time and one half-time Forest Guards assisted W. R. Centerwall during the fire season.[12]

The Fire Guards continued patrolling the Reservation for fires, but two reserves had been set aside for lookouts, and a 40-foot steel tower was on order from Chicago.

If W. R. Centerwall was finding the time to put together a strong forestry program in the latter part of 1929 and early 1930, he must have found it more difficult after the spring of that year as the Indian Service placed grazing management under the supervision of the Forestry Branch. Centerwall received a new title, Forest Supervisor, and more responsibility.

Chief Forester J. P. Kinney and Associate Forester Lee Muck formulated a program for range management on all Indian reservations. Approved by the Secretary of the Interior on June 4, 1931, that program had the following objectives:

1. Preservation of land, water, forest and forage in a safe and entire state.
2. The permanent welfare of the livestock industry generally and the Indian livestock industry in particular.
3. The protection of the interests of the whole Indian people against unfair competition by the more aggressive individuals.
4. The conservative utilization of all forage resources, primarily through the development of the livestock industry and among Indians, and secondarily, through the regulated sale of grazing privileges.[13]

Forest Supervisor Centerwall noted that there was no problem in administering Forestry activities on the Reservation, due to the limited amount of logging and lumbering. He claimed, however, that the addition of grazing administration complicated the task. After the dismal failure of a Tribal cattle enterprise which was terminated in 1924, the grazing lands were used primarily by Indians running their private herds or by white ranchers who leased the Reservation grazing lands for as little as 10 cents per acre. That price has since been referred to as unfavorable in relation to similar leases on the Crow Indian Reservation at the same time which earned nearly twice as much.[14] Although

Centerwall believed that none of the Reservation's ranges were overgrazed, the extended drought that characterized the early years of the Depression created a situation in which the grazing lands were used to their "fullest extent."[15]

Suddenly, the Forest Supervisor had to devise and implement a plan for range management, as well as count stock on the range, locate "driveways," and control trespass. Not all of the responsibilities were as difficult to meet as might be imagined, since the Northern Cheyenne Indian Reservation already had a Superintendent of Livestock who was placed under Centerwall's direction. The Forest Guards served a double function as line riders and fire patrols. Also, grazing itself was viewed as having a beneficial effect on the Northern Cheyenne forest--first, by reducing the fire hazard from accumulated growth of forage and allowing for better new growth and, secondly, by reducing or thinning through trampling the unusually dense reproduction on forest lands.[16]

In assessing the needs of grazing administration on the Reservation, W. R. Centerwall cited the following:

> The management of grazing cannot be brought to the greatest efficiency until a detailed plan can be made of each range unit. This plan should provide for full utilization of the range by; the determination of the carrying capacity of the range in kind and number of stock, the determination of the proper grazing season, the proper sequence in which the different portions of the range should be used so as to secure rotation grazing, and the proper method of control by the definite location of camps, salting grounds and the development of water.[17]

Grazing administration was to become a time-consuming task for the Forestry staff at Northern Cheyenne until that job finally was removed from the Branch of Forestry in 1954. Foresters often devoted more time to grazing management than to forestry matters. W. R. Centerwall directed the program throughout the Depression era.

In the summer of 1931, W. R. Centerwall became Superintendent at Northern Cheyenne. The Annual Forestry Report for 1931 and the report of an inspection by Director of Forestry J. P. Kinney and Range Supervisor

Frank Lenzie testify to Centerwall's effectiveness while in charge of the Reservation forests. Kinney was able to review a 47-foot steel tower and lookout cabin at Badger Peak, a similar station under construction at Lost Leg lookout point, an efficiently controlled fire at the head of the south fork of Alderson Gulch that had burned during the worst conditions of the summer, Indian timber salvage operations already instituted in the burned area, successful beetle control work performed during the winter of 1930-31,[18] roads built primarily for access to timbered areas for fire protection, and construction of two telephone lines connecting with the new lookouts.[19]

Some problems did exist, however. Kinney noted that a fire on Trail Creek showed evidence of "gross negligence or incendiarism" as it was allowed to jump the fire line in areas where it could have been prevented with minimum effort. That fire was supervised by a man who held the position of Farmer on the Reservation and who was reprimanded for his conduct. An additional problem was that of over-utilization on the range. The Director of Forestry reported that the range was badly over-utilized,

> . . .not so much from intentional over-stocking as from the fact that the range did not produce anything like its normal volume of forage during the 1931 season because of the extremely adverse growing conditions that existed. Numerous watering holes dried up and a much heavier concentration of stock around available water resulted. Except in occasional places such as around water holes, along roads, etc., no permanent damage to the sod on large areas was noted.[20]

ALLOTMENTS AND TIMBERLAND

Carl D. Rawie replaced Centerwall as Forest Supervisor at a difficult time (August 6, 1931). He had to deal not only with the weight of administrative duties associated with the addition of grazing and road work, but with the additional burden that resulted from the allotment of formerly Tribal lands to individual Indians under provisions of the Act of June 3, 1926. That legislation stated in part, "The right is

hereby reserved to any Indian to select as his allotment a tract occupied by him at the time of the approval of this act, though such lands or a part thereof may be classified as timber lands. . ." In all other circumstances the lands classified as timberlands were to be reserved as a Tribal forest for the benefit of all of the Indian people residing on the Reservation.

Problems arose, from Forest Supervisor Rawie's viewpoint, when the commission allotting the lands "stretched a loophole" to allot 9,472.01 acres of timberland containing an estimated and cruised volume approximating 16 million board feet of timber. Rawie's opinion, with which Superintendent Centerwall concurred, was as follows:

> A portion of this allotted forest land was occupied as farms or homesteads on June 3, 1926 and the Indian in such cases is clearly entitled to the land as his allotment. The stretching of the law came about when land which had been occupied at any time, in a few cases thirty or forty years, before June 3, 1926, but not on this date, was set aside as an Indian allotment. Also in cases where all the members of a family were granted allotments of timber land where one member of the family had occupied a piece of the ground prior to or at the time of the approval of the allotment act. In the matter of occupancy of the land an overnight camp seemed to be considered in some cases as being sufficient to come under the provision of the act. In other cases, it appears that timber land occupied by one Indian prior to or at the time of the approval of the allotment act was set aside as the allotment of another Indian who did not so occupy the land.
>
> Although nothing illegal was intended or committed by the allotting agent, it seems that no special effort was made to stay by the splendid policy of conservation which was the motive of this act. As the individual would fight harder for what he wanted than the tribe would for its rights, as set forth by law, the individual usually won. We do not mean this as purely a criticism of the allotment work but it seems to us that this condition should be made a matter of record. Especially is this true in view of the expenditure of thousands of dollars for classification and reclassification, a large amount of which was rendered useless by this act of throwing away the timberlands.[21]

Although section 2 of the Act of June 23, 1926 (44 Stat., 690) reserved the right for certain Indians to hold allotments on lands classified as timberlands, section 3 of that act stated that ". . .timber, coal or other minerals, including oil, gas and other natural deposits on the Northern Cheyenne Indian Reservation, are hereby reserved for the benefit of the tribe. . ." Superintendent Centerwall and Forest Supervisor Rawie treated all timber as a Tribal resource, whether on allotments or on the Tribal timber reserve. Ownership of allotment timber was to become a thorny issue, not resolved until 1947 when Congress passed an act declaring that timber on individual allotments on the Northern Cheyenne Indian Reservation belonged to the allottees.[22]

Despite the fact that all timber was treated as a Tribal resource in the years immediately following allotment, the Forestry staff had a difficult time administering cutting on allotments. All Indians were required to obtain a permit before cutting on the Reservation, the permit stipulating that the purchaser must pay a $3 per thousand board feet (log scale) stumpage fee to the Tribe. The system generally worked well. It failed when individual Indians sold lumber off the Reservation without permit or when the purchaser ignored the Agency requests to pay stumpage.[23]

To avoid such problems, Superintendent Centerwall and his staff devised a plan in which forest products going through the Agency mill (estimated by Centerwall to be fully 95 percent of all timber cut on the Reservation) would have a toll assessed to cover both the milling expense and the stumpage value. The lumber taken as toll for stumpage would then be used by the Agency, with payment transferred from Agency operating funds to sundry receipts as income for the Tribe. Centerwall believed that the procedure would eliminate the difficult task the Agency was encountering in trying to determine whether all Indian cutting activity was being conducted under permit and would stop "bootlegging," as the Superintendent called illegal sales to off-Reservation consumers.[24] Superintendent Centerwall estimated that 20 to 30 Indians made part or all of their annual income from the sale of timber from the Reservation's forests. Faced with crucial unemployment problems, it was

desirable for them to continue to do so. Centerwall sought only to protect the interests of the Tribe by securing payment for Tribal timber.

Without adequate transportation facilities, there was still little or no prospect for a major timber sale on the Reservation. The Agency maintained its Howell No. 3 sawmill plant, powered by an aging 25-45 Case tractor. It served at eight separate settings in fiscal year 1932 alone. For 158 days of actual sawing, the mill produced an average of 3.6 thousand board feet per day.[25]

THE DEPRESSION YEARS

Since Northern Cheyenne had no burgeoning timber industry, it did not suffer so drastically from the effects of the Depression on the timber industry. Around the country, however, large timber firms were going bankrupt and approximately 150,000 men were out of work in the industry. The Indian Office was more than willing to cooperate when President Herbert Hoover, on December 5, 1930, appointed a Timber Conservation Board to investigate ways in which the Federal Government might aid the struggling forest industries.

Upon request of the Sustained Yield Committee of the Timber Conservation Board, Commissioner of Indian Affairs C. J. Rhoads directed the Forestry Branch of the Indian Service to cooperate in compiling data related to sustained yield management potential on Indian forests. J. P. Kinney, then Director of Forestry within the Forestry Branch, chose his Assistant Director Lee Muck and Assistant Forester Percy Melis to conduct the survey and submit a formal report. By means of a questionnaire, one of which went to the Agency at Northern Cheyenne, the two foresters were able to complete the assignment by September 15, 1931, only two months after the request for data originally was made. The result of the survey was a report entitled THE STATUS OF INDIAN FORESTS IN RELATION TO A NATIONAL PROGRAM OF SUSTAINED YIELD, often referred to as the Muck-Melis Report.

The report defined sustained yield as a practical business procedure in which the forest resources of the country could be perpetuated

through conservative economic use. The principal objective was ". . . the continued flow of a balanced volume of wood from forest to factory, . . .accomplished by regulating the cut in such a manner as to utilize a quantity of wood equal to the volume which is produced by the forest annually."[26] Muck and Melis described the workings of a sustained yield program as follows:

> Effective practice under these principles results in a perpetual annual yield of approximately the same volume and value, secures a maximum growth under given conditions of site, species and rotation, and provides the greatest degree of safety from fire, insects, and other destructive agencies. Both over-cutting and under-cutting are avoided; there is a constant, regulated flow of wood from forest to market; and the forest capital is maintained in a state of equilibrium.[27]

The two foresters noted, however, that the application of such a program was complicated by the land status problem related to Indian forests. The land status problem itself was complicated, particularly by restrictions on the trusteeship authority of the Commissioner of Indian Affairs over allotted lands and the need to provide capital for educational and industrial advancement of the Indian peoples. Their first and foremost recommendation was consolidation of timbered properties on the individual reservations and creation of timber reserves. For Northern Cheyenne, at least, the foresters were one step behind the allotting agent.[28]

Although the Northern Cheyenne Agency contributed data toward compilation of the report on sustained yield, the report had no immediate impacts on the Reservation. It did lend strong support for mandatory sustained yield management that eventually was incorporated into law by the Indian Reorganization Act (Wheeler-Howard Act) of 1934. The Timber Conservation Board also recommended that all "publicly controlled forests" be put under the administration of a single bureau--a move that J. P. Kinney and his superiors in the Interior Department successfully blocked.[29] In the meantime, however, forestry activities maintained their usual pace at Northern Cheyenne as Indians continued to cut under permit, with no contracts being issued for timber sales.

A directive from the Commissioner of Indian Affairs in June of 1931 announced that timber sales would be restricted to conform to national policy instituted by the President. To the extent allowable by law and existing contracts, the Forestry Branch of the Indian Service was to limit sales to local operators who relied upon Indian timber as their source of supply or where such sales were necessary to protect the economic interests of the Indians under the trust responsibility.[30] J. P. Kinney interpreted for Agency foresters that the directive left the situation basically unchanged from standard procedure, with the exception that a closer eye be given to the market and local conditions.[31] Northern Cheyenne, again, was unaffected since it had no commercial sales to limit and there was little prospect for any contracts in the foreseeable future.

Northern Cheyenne Forest Supervisor Carl Rawie estimated the total market for timber from the Reservation at 500 thousand board feet or less, mostly to small towns and ranches within trucking distance of the forest. He divided the forest into seven possible "working units" for exploitation of the timber in the event that sales might be made. Those units corresponded to drainages on the Reservation as follows: Logging Creek, Kelty Creek, Tie Creek, Stebbins Creek, Ryegrass Creek, Greenleaf Creek, and Kelly Creek. In addition, Alderson Gulch, Soldier Gulch, and Lame Deer Creek were designated as likely sources for locally used timber. The Indian Coulee and Upper Rosebud areas, as well as the divide between Lame Deer and Muddy Creeks, also would provide only enough timber for local consumption. Although Rawie had no formal studies to support him, he estimated in 1932 that there was sufficient timber on the Reservation to produce 7 million board feet per year on a sustained yield basis.[32]

In the spring of 1933, Carl Rawie remained the only employee at the Northern Cheyenne Agency in the Forestry Branch. Grazing work consumed most of his time, followed by administration of timber cutting permits, general office work, fire protection, and supervision of the Agency sawmill. Two members of the Northern Cheyenne Tribe served

during the summer as lookouts for $70 per month, including room but not board. A white sawyer and Indian assistant operated the Agency sawmill, with the log owners providing additional labor as needed to produce the lumber. In fiscal year 1933 that mill produced 390 thousand board feet of lumber, 78 thousand board feet of which went to the Government as a toll for operating expense. Thirteen fires occurred during that same time period, resulting in a loss of 18 thousand board feet of timber. Additional road construction and maintenance also kept the Forester busy and constituted the largest part of the budget.[33] A notable item in the 1933 Annual Forestry Report was the expenditure of $118.86 for reforestation work. Attributable to Indian Emergency Conservation Work, that project was the beginning of a new era of forestry work at Northern Cheyenne.

IECW AND THE CCC-ID

As drought brought ruin to agriculture across the country, banks failed, 15 million people were without customary employment, and the economic and social fabric of the entire nation were about to rend under the stress of what has come to be called "The Great Depression." In June of 1930, two years before the economy was to reach its lowest point in contraction and deflation, President Hoover was convinced that the worst was over. He met a delegation requesting relief through Government-sponsored work programs with the comment, "Gentlemen, you have come sixty days too late. The depression is over."[34] The voters did not agree, and in 1932 they selected Franklin D. Roosevelt to take the helm of the foundering ship of state. He was more willing to listen to those calling for action, including the public works alternative, and he was more willing to assume the expanded Federal debt which that would entail. Roosevelt would throw Hoover's policy of a balanced Federal budget out the window as the worsening economic plight of the nation called for drastic measures.

President Roosevelt's "New Deal" for the "forgotten man" took shape in numerous Federal programs, perhaps the best remembered of which

were the public works programs designed to provide jobs to the country's teeming unemployed. On March 31, 1933, Congress approved the Emergency Conservation Work (ECW) Act. The act declared outright that its purpose was to relieve ". . .the acute condition of widespread distress and unemployment. . ." in the United States and to restore the country's depleted natural resources through a systematic program of public works. That act was followed in 1937 by another Congressional action establishing the Civilian Conservation Corps (CCC).

From June 19, 1933, to July 10, 1942, the Office of Indian Affairs shared in the operation of those two work programs. J. P. Kinney attended the first of CCC advisory council meetings and, along with Secretary of the Interior Harold Ickes, was able to convince the administration that Indians should be allowed to participate in the ECW and CCC programs, although under direct supervision of the Bureau. President Roosevelt approved the plan in April of 1933, and CCC Director Robert Fechner inaugurated the program only three days later with a budget of $5,875,000 for the first six-month enrollment period.[35]

The Indian Emergency Conservation Work (IECW) and the Civilian Conservation Corps--Indian Division (CCC-ID) took different forms than their parent organizations. Perhaps the most significant difference was that less than one percent of wages paid through the Indian programs went to pay the salaries of whites, and in nearly all of those instances the whites were intermarried or supporting Indian families. Indian men over the age of 18 and healthy enough to work could enroll. Stringent requirements for 200-man camps as a means of economy were not imposed upon the Indian programs as they were in the general operation of the CCC. Instead, Reservation Superintendents who supervised the work projects for their jurisdictions instituted camps of whatever size they deemed suitable to carry out their objectives. The Office of Indian Affairs maintained all responsibility for Indian camp administration, medical requirements, and discipline. Laws, rules, and regulations for standard Indian Service operations were to be followed except where a conflict might arise with provisions of the CCC Act or regulations

promulgated by Director Fechner. Fechner also maintained the right to accept or deny any expenditures over $2,500.[36]

The goals of the public works programs related well to aspirations the new Commissioner of Indian Affairs, John Collier, had for the Indian people within the Government's trust jurisdiction. Unemployment had been a critical problem on most of the nation's Indian reservations, and the work programs provided what for many Indians was their first full-time, regular job. The program's focus on natural resource conservation and development also complemented Collier's plans for making Indian tribes self-governing and protecting their cultural and religious values. By developing resources within the reservations, an economic base could be developed to sustain the Indians on their own lands and not force them to assimilate into an off-reservation community merely to provide the basic necessities of life. Where the CCC was to relieve Depression-related unemployment in the country as a whole, it provided Indians with an opportunity never before available.

Shortly after passage of the public works programs, Congress passed another act radically changing Government policy regarding Indians. Supported by Commissioner of Indian Affairs John Collier and co-sponsored by Montana Senator Burton K. Wheeler, the Indian Reorganization Act (the Wheeler-Howard Act) of 1934 repudiated the policy of allotments in severalty as a method to bring about assimilation of the Indian people. Where the original Allotment Act of 1887 sought to make the Indians self-supporting, independent landowners, the end result was poverty and landlessness. The Indian Reorganization Act suspended all future allotments and extended the Government's trust responsibility indefinitely as a means of preventing further Indian lands from being alienated. It recognized the Indians' right to organize for their common benefit, to adopt a constitution and by-laws, and to employ legal counsel. Designed to promote Indian self-sufficiency, the legislation emphasized the need for protection of natural resources and directed the Secretary of the Interior to make rules and regulations for placing the Indian forests on a sustained yield management program. The Depression stalled

implementation of sustained yield forestry on many reservations as depressed markets complicated the task. That sustained yield mandate did give direction to the CCC-IC and IECW forestry projects on Indian reservations, however, and it provided the basic management philosophy that is still in evidence today.

Commissioner Collier appointed Jay B. Nash as director of the CCC-ID and placed J. P. Kinney in charge of production supervision. Since timber and grazing were the principal resources on most of the Indian reservations at that time, J. P. Kinney, as former Director of Forestry, was a natural choice for the job. However, it is possible that the job was designed as a demotion for Kinney, whose policies often were subject to Collier's criticism before the latter became Commissioner.[37]

To facilitate administration of the Federal work programs within the Indian Service, Commissioner Collier created district coordinating offices. Situated originally in Billings, Montana; Spokane, Washington; Phoenix, Arizona; Albuquerque, New Mexico; Minneapolis, Minnesota; and Muskogee, Oklahoma; those district offices served the geographic location surrounding them. The Indian Office staffed the district offices with technically qualified people in the areas of forestry, engineering, production coordination, drafting, and camp supervision. They advised reservation Superintendents and project directors, and engaged in project design and planning.[38] That system was the seed of the Area Office system in operation for BIA administration today.

The IECW and the CCC-IC undertook numerous forestry and grazing projects on reservations nationwide. They constructed lookouts, bridges, timber access roads for fire control, telephone lines, and trails. Other efforts were directed toward nursery work, seed collection, planting, insect control, timber stand improvement, and landscaping. Under the auspices of grazing projects, they developed watering holes, built fences, and combatted rodents and grasshoppers.[39]

At Northern Cheyenne the ECW program began in July, 1933, after approval of $105,000 for projects as follows:

A. Truck Trails--135 miles

B. Range Improvement
   1. Fencing--new
   2. Repairing old fence (170 miles)
   3. Corrals
   4. Stock driveways
   5. Water development; 200 springs, dams
   6. Rodent control
   7. Eradication of poisonous plants

C. Miscellaneous:
   1. Lookout tower and cabin at Black Springs
   2. Lookout tower and cabin at Bull Creek Hill
   3. Telephone lines

D. Fire Suppression--fire fighting
   Fire Sanitation--cleanup work

Camps were established at Busby, Crazy Head Spring, Lame Deer, Ashland, and Lost Leg. Labor for the sawmill camp came from Crazy Head Camp, and most of the Indians working on the telephone and fencing projects lived in their own homes. A standard investigation of the public works programs at Northern Cheyenne in 1933 revealed no evidence or charges of graft or corruption as Superintendent Centerwall watched the work closely, and Supervisor of Forests Carl Rawie acted as Production Supervisor. In the fall of 1933 it was estimated that "fully 90 per cent of the able-bodied men" from the Reservation were on the payroll and unemployment had been virtually eliminated.[40]

By the end of fiscal year 1934, Forest Supervisor Rawie reported that nearly all aspects of forestry work were submerged in the work programs of the Federal Government. Hence, his report of forestry operations that year amounted to a recounting of IECW accomplishments. Rawie served also as Production Supervisor for the public works projects on the Reservation. He hired no "irregular" or seasonal employees due to the availability of IECW labor for manning lookouts, fighting fires, and riding range, the responsibilities usually assigned to temporary help. The two lookout towers aided materially in the rapid detection of fires, and the Forest Supervisor planned another one, to be completed by IECW labor before the end of fiscal year 1935, for Black Spring.[41]

In addition to numerous grazing-related projects, the IECW built 70 miles of truck trails and 93 miles of new telephone lines. Other public works funds were used to grade and gravel 18 miles of primary roadway. Similar projects ensued the following year, with completion of two lookouts instead of the one that had been anticipated. Thomas E. Norton replaced Carl Rawie as Senior Forest Ranger and IECW Production Supervisor, with fully 95 percent of his time devoted to the latter job.[42]

By the time the Federally funded work programs came to an end on the Reservation (1942), the CCC-ID had completed over 250 miles of truck trails, constructed over 200 miles of fences, built three lookout towers and associated ranger cabins, erected four barns, sunk 11 deep wells, developed over 200 springs, built a dozen corrals on the range, and established several reservoirs for livestock watering.[43] In addition to the Indian employment and training provided during that era, many of the improvements would provide lasting benefit to the Reservation through the development and protection of natural resources, particularly the forests. The work crews also provided maximum protection against fires for the period that they operated on the Northern Cheyenne Indian Reservation. When the United States entered World War II, the nation had to direct its manpower and equipment toward that effort. As a result, the CCC-ID activities came to an abrupt end, and poverty and unemployment returned for many on the Reservation.

TIMBER CUTTING AND SAWMILLS: 1930's

Throughout the era of CCC-ID activities on the Northern Cheyenne Indian Reservation, a limited amount of timber-cutting and milling activity occurred. The Agency operated a portable sawmill throughout the period, sawing timber cut by Indians under permit or for public works projects to benefit the Tribe. Until approximately 1936, a recurring problem was that of individual Indians obtaining permits to cut timber for improvements on their own property but selling the lumber instead to whites off the Reservation. Since all Reservation timber at that time, including that on allotments, was legally the property of the Tribe as

a whole, it was illegal to sell that timber without a sale permit and payment of a stumpage fee. When the Northern Cheyenne Tribe ratified a constitution in 1936 and established a Tribal Council under provisions of the 1934 Indian Reorganization Act, one of the Council's actions was to approve timber permit regulations as submitted by the BIA Forestry representative on the Reservation. Aside from requiring strict adherence to the Secretary of the Interior's regulations pertaining to cutting timber on Indian lands, the Tribe would allow timber permits to be issued to individuals for personal use only in amounts up to 20 thousand board feet per year.[44] There were no reports of similar problems after the Tribal Council approved those regulations.

Still, there were no timber contract sales at Northern Cheyenne. Reports continued to mention the possibility of a railroad being built through Ashland, but they were increasingly pessimistic. Looking further to the east, however, Superintendent Centerwall noted in 1936 that the Black Hills forests rapidly were being depleted. He believed that in the near future lumber from the Northern Cheyenne Indian Reservation would find a market among the Black Hills mines and in the several small towns along the route, especially after construction of a new highway between the two areas.[45]

Centerwall recommended two alternatives for approaching potential commercial timber production on the Reservation. The first method was operation of a Tribally-owned sawmill and marketing system. This, according to the Superintendent, would yield the highest returns to the Tribe. An alternative would be to obtain a timber sale with an individual who might erect a sawmill at Ashland and sell the lumber, using trucks for delivery. Centerwall's suggestions appear to be the first such considerations for marketing Northern Cheyenne timber. Very likely they were an indirect result of IECW and CCC-ID work on the Reservation, as those programs showed the value of trucks in logging and improved roads brought the Reservation closer to the "outside world."[46]

Centerwall viewed the Northern Cheyenne forest as one ideally suited for sustained yield management. All age classes were represented in a

stand that was nearly all ponderosa pine. With an estimate of 250 to 300 million board feet of merchantable timber, the forest had potential for exerting a ". . .large influence on the Tongue River Indians' future activities. . ." if developed in accordance with the rules and regulations engendered by the 1934 Indian Reorganization Act and its mandate for sustained yield management.[47]

Much of the timber cut during the 1930's was for use by the public works projects. In fiscal year 1935, for example, Indians cut under permit 134 thousand board feet of timber, while the Government cut 150 thousand board feet. Between 1936 and 1941 the Government obtained over 700 thousand board feet of timber for Agency use and public works.[48] On April 2, 1937, a Tribal delegation consisting of Eugene Fisher, John Standing Timber, and Black Wolf broached the topic of Government timber use with Director of Forestry Robert Marshall, J. P. Kinney's replacement. They argued that the Government was cutting Tribal timber without Tribal consent and without paying stumpage fees.[49]

Director Marshall conceded that it was illegal for the Government to cut Tribal timber without paying stumpage except in such instances as the Tribe consented to. He acknowledged that the Government had been remiss many times in the past in not obtaining that consent, but he insisted that permission would be sought in the future. Northern Cheyenne Superintendent Charles Jennings claimed that he did obtain permission to cut Tribal timber when he approached the Tribal Council in the summer of 1936 after a severe windstorm blew down a large quantity of timber. Regardless of the Superintendent's position on the matter, Director Marshall issued a thinly-veiled threat to the Northern Cheyenne delegation in directing their attention to the fact that the timber was being used to their benefit on the Reservation. Marshall commented as follows:

> While the tribe has a right to refuse the Government the use of its timber unless it will pay stumpage for it, nevertheless it does seem that where the Government is making a large gratuitous appropriation for work which is desired by and of benefit to the Indians, then the Indians should be willing to make a minor contribution of their timber,. . .[T]he Government does not have nearly

> enough money to carry out all the activities and construction desired by the different tribes. . . Consequently, while the Government cannot force the tribes to donate their stumpage it is much more apt to contribute funds for work on those reservations where the Indians are more willing to make some contribution themselves to help in carrying out the projects involved.[50]

The Tribe did not take further action against the Government for using the timber. In fiscal year 1938, when crews cleared windthrown trees from the Northern Cheyenne forest, the Agency and CCC used approximately 377 thousand board feet as compared to only 7.5 thousand board feet cut by the Indians themselves.

In 1937 Earl Simpson began operating a portable sawmill on the Reservation, cutting for Indians with permits and receiving a toll for use of his mill. In 1937 he also received payment from the Agency for his labor. In subsequent years, the Agency dropped his salary and a toll was taken for that also.

In 1938 another portable mill, belonging to Robert Livingston, came onto the Reservation to cut under the same circumstances. The Livingston Mill became the focal point for renewed interest in the 1926 Allotment Act as the allottees for whom he was cutting at that time claimed ownership of the timber on their land. That was contrary to the stance the Indian Affairs Office had taken on all cutting since the issue first arose. Senior Forest Ranger J. D. Lamey noted that situation in a memorandum for Superintendent Charles Jennings. Jennings reviewed the Allotment Act provisions regarding timber and concluded that the timber on allotments rightfully belonged to the allottees.[51] That was in direct conflict with a letter he wrote on February 10, 1938, in which he told the Director of the Northern Rocky Mountain Forest and Range Experiment Station that all of the timber on the Northern Cheyenne Indian Reservation belonged to the Tribe.[52]

Timber ownership for allotments remained a thorny issue until 1947. In 1945 the Tribal Council suspended all timber cutting on allotments until the Indian Office would definitively answer the question. The Regional Forester disagreed with Superintendent Jennings, and the Indian

Office in Washington submitted the issue to the Solicitor. The Solicitor determined that the 1926 Allotment Act definitely reserved all timber, whether on Tribal or allotted lands, for the benefit of the Tribe. Gordon MacGregor, who replaced Charles Jennings as Superintendent later in 1945, told the Commissioner that the Indians of the Reservation ". . . lean toward giving the individual allottee the returns from timber on his allotment."[53] In 1947, Congress disposed of the issue by passing legislation declaring all timber on allotted lands from that time forward would belong to the allottee.

The Congressional act ending the dispute over timber ownership on the Northern Cheyenne Indian Reservation also ended an era of controversy that had begun with the 1926 Allotment Act. In a similar sense, the advent of World War II ended an era of opportunity that had begun with passage of the first Emergency Conservation Work Act in 1933. For a decade the Northern Cheyenne Indians benefited from labor opportunities never before available to them. New roadways, improved communications, and other physical improvements added new dimensions of opportunity for natural resource development and protection. The War brought a sudden end to the employment possibilities associated with the public works programs. However, the skills learned during those years of service to the Reservation better enabled the Indian participants to render service to the country during the War and to participate in management of their own resources both during and after the conflict.

CHAPTER V

POST-WAR SUSTAINED YIELD MANAGEMENT

TIMBER SALES MANAGEMENT

In January of 1941 Northern Cheyenne Agency submitted a brief forestry plan to the BIA Regional Office in Billings. Initiated by the Soil and Moisture Conservation Operations staff, the plan outlined the history of timber cutting at Northern Cheyenne and made recommendations for a future course. The report declared that timber cutting essentially was unregulated until 1927, when the first professional forester was assigned to the Reservation. There had been no timber sales to 1941. the only cutting being done under permits issued by the Forest Officer and approved by the Tribal Council. The report termed the fire protection program well-planned and efficient, due largely to the efforts put into carrying out the annual fire protection plan. Only a shortage of funds for new equipment detracted from the fire-fighting capability. There was no timber trespass problem, and forest insects were kept under control through selective logging techniques.[1]

The Soil and Moisture Conservation Operations report concluded that the Northern Cheyenne forest should be surveyed to compensate for inadequacies in the 1930-31 land appraisal survey. The Forestry Branch should then formulate and adopt a detailed management plan based upon the principles of sustained yield. Additional recommendations were for scattering brush and debris left from old logging operations that had failed to provide for lopping, scattering, or burning of brush. Some planting of trees, shrubs, and vines was recommended for erosion control measures. Finally, the report recommended that the BIA establish "demonstration areas" upon forested lands of the Reservation. Those demonstration areas would include timber satnd improvement (20 acres), protection from

grazing (10 acres), proper cutting and logging methods (Unit), and proper grazing of forested areas (Unit).[2] All of the recommendations, including the survey, had to be postponed as the United States entered World War II and the public works programs that had provided so much manpower for protecting and developing the Reservation's forests came to an end.

Whereas the War ended the single most beneficial program for the Reservation's forest to that date, it gave impetus to timber sales from Northern Cheyenne and opened a whole new realm of possibilities for management. Perry E. Skarra, Forest Supervisor at Northern Cheyenne in 1942 and later to become Chief of the BIA Branch of Forestry, gave the following assessment of markets in 1942:

> The War has brought about an increasing demand for native lumber. Local Indians and nearby non-Indian ranchers maintain a fairly constant demand. Lumber yards at Sheridan, Wyoming, approximately 65 miles South and Hardin, Montana, approximately 55 miles Northwest have a steady demand for native lumber.[3]

The improvement in local market conditions justified the first timber sale contracts for the Northern Cheyenne Indian Reservation. On January 19, 1942, the Tribal Council passed a resolution issuing authority for a timber sale contract with Gail Bolson Livingston, an enrolled member of the Tribe. Gail Livingston and her husband Robert had operated a small portable sawmill on the Reservation for several years. They cut for Indians under permit and charged a portion of the logs delivered at the mill as toll. Due to the irregularity of deliveries made to the mill by individual Indians, the mill frequently had to be shut down. To overcome this problem the Agency proposed to sell stumpage to the mill operators that they could cut and saw during periods when there were no other logs at the mill. Since the General Timber Sale Regulations of 1936 did not allow permits in excess of $100 worth of timber to a single party in a given year, the Tribe authorized the contract and Superintendent Jennings approved it on February 27, 1942.[4]

That first contract with Gail Bolson Livingston provided for sale

of 165 thousand board feet of mature or over-mature timber marked by a Forest Officer and charged at a rate of $3 per thousand board feet, Scribner Decimal C log scale. Located near the head of Kelly Creek, the sale contract contained provisions stipulating that Indians would be allowed to have their logs sawed at the mill for toll or payment as previously arranged. The Livingstons could cut and mill their own logs only ". . .at such times as the logs brought to the sawmill under Indian permits [were] insufficient to keep the mill at full operation."[5] Those same provisions were assigned to subsequent contracts with the Livingstons in 1942 and 1943. In the latter year, the couple established a more permanent sawmill and planing mill near Lame Deer on land leased from the Tribe.[6]

In August of 1942 Superintendent Jennings, with Tribal authorization, approved a similar timber contract with a non-Indian to cut timber near the head of Skunk Coulee. H. O. Hayden, from Kirby, Montana, obtained permission to cut an estimated 165 thousand board feet at $3 per thousand board feet. He was required to saw for Indians under permit before he could cut any timber under the contract. He owned and operated a portable sawmill and had come onto the Reservation at the request of the resident Indians. In March of 1943 he obtained another contract with the same provisions that allowed him to cut timber on Dry Creek.[7]

When Forest Supervisor Perry Skarra left his post at Northern Cheyenne in 1943, he informed his successor that the sales to the two portable, private mills were functioning smoothly. Markers were well ahead of the operations and all scaling was up-to-date. He recommended, however, that no additional sawmills be brought onto the Reservation, as those present were deemed adequate. The Agency sawmill also was operating, cutting logs that had been felled and decked by the CCC before they program ended. The mill continued to cut for Indians on a toll basis, allowing 60 percent for the Indian permitee and 40 percent for the Agency. Since most of the lumber taken in toll and cut from the CCC logs was needed for Government projects on the Reservation, Skarra advised the new Forester to exercise discretion in selling lumber from

the mill yard. Sales to non-Indians were to be made only in small amounts, and then only when the lumber would be used for improvements on Indian lands. Lumber from the mill sold at that time for $20 per thousand board feet rough and $25 per thousand board feet planed.[8]

In addition to recommendations for timber sale administration, Skarra informed his successor of the fire situation on the Reservation. Revisions for the next Annual Fire Plan were already completed. It was necessary, however, to check all cooperative agreements and plans and to delete all references to the CCC. The Reservation was well equipped to handle any but the most severe fire threats, but close attention would have to be given to incorporating previous CCC property into the forestry inventory. Despite the increase in cutting activities, fire prevention and suppression still remained uppermost in the role of the Forest Supervisor at Northern Cheyenne.[9]

To Perry Skarra's successor, Nat B. Hanson, went the honor of supervising the largest timber sale contract on Northern Cheyenne to that date. On December 30, 1944, Superintendent Charles Jennings recommended approval of the sale of an estimated 1 million board feet of timber to Robert Livingston. The sale was named Soldier Gulch No. 1 Logging Unit and was forwarded to Regional Forester Thomas C. Carter, who approved the contract.[10]

The sale actually originated with Northern Cheyenne "Resolution No. 272" of February 22, 1944, which recognized the shortage of lumber resulting from the war effort. To support the local sawmill industry and to benefit the Tribe, the Council resolved that the Superintendent take whatever steps might be necessary to secure the sale of Northern Cheyenne timber in accordance with the 1936 Timber Sale Regulations, as approved by the Secretary of the Interior. Regional Forester Thomas Carter assisted Forest Supervisor Nat Hanson in compiling a Forest Officer's Report for a timber sale, which recommended putting the sale unit up for bid.[11]

The sale was practically assured to go to Robert Livingston since his was the only sawmill operating on the Reservation after H. O.

Hayden removed his outfit upon completing his contract in December, 1943. The Agency mill also was doing little cutting due to labor shortages associated with the war effort and a curtailment of Government projects on the Reservation. Livingston's mill, in the meantime, had opened a new market for Northern Cheyenne timber. With the exception of a limited amount of lumber sold on or near the Reservation, he sold all of his lumber to the Yellowstone Lumber Company in Miles City. It was the first time that market was reached since the 1880's, when log drives down Tongue River carried timber from the forests that eventually would become part of the Reservation. The Soldier Gulch No. 1 Logging Unit enabled Robert Livingston to keep his mill in operation until March of 1947. By that time he had cut 1,107.34 thousand board feet under the contract and had paid $3,358.45 for stumpage. After the BIA deducted 10 percent for timber sale administration, that still left the Tribe with over $3,000.[12] When Livingston requested that the Soldier Gulch No. 2 Logging Unit be put up for sale, however, competition had arrived.

When the bids for Soldier Gulch No. 2 Logging Unit were opened on April 30, 1947, Paul Siegfried, new to logging on the Reservation, had the high bid at $6.05 per thousand board feet. Livingston apparently closed his mill, and Siegfried began what was to become an eight-year enterprise involving innumerable complications and hardships.

The first of the complications arising over the sale of timber from both Tribal and allotted lands was the question of ownership. The Tribal Council believed that allottees should receive payment for timber cut on their land and passed a resolution to that effect. The BIA submitted the entire question to the Solicitor's Office, which interpreted the 1926 Allotment Act as providing for all timber on the Reservation as Tribal property. Congress upheld the wishes of the Tribe as expressed by the Tribal Council and passed legislation in 1947 that declared timber on allotted land thenceforth the property of the individual allottees or heirs thereof.

Siegfried, who listed his address as Billings, Montana, began cutting on the unit in 1947. He was unable to meet the cutting requirements

of at least 500 thousand board feet per year during each of the first four years of the contract. Relief from cutting and payment requirements was granted in each of the first three years, and an extension was approved on March 23, 1951. Two subsequent extension prolonged the contract until July 1, 1954, at which time the contract was to expire. During 1953, when he should have been completing his contract, Siegfried moved his mill to a location near Lame Deer. This action drew criticism from some Tribal members. Still, the Tribal Council approved the extension to 1954, possibly influenced by the fact that the mill had to be closed for a time after Siegfried was hospitalized as the result of an accident at the new mill site. At the time of the final scaling, Siegfried had cut 2,529.95 thousand board feet of timber from Tribal and allotted lands which made up the Soldier Gulch No. 2 Unit. He paid $28,311.14, 10 percent of which went to the U.S. Treasury as deduction for timber sale administration. Allottees received $5,829.62 as a result of the 1947 Congressional legislation, and the Tribe obtained $19,650.39. Five price adjustments were made during the course of the sale, only one of which was a downward revision. The final readjustment placed stumpage at $13.47 per thousand board feet.[13] Smaller sales along the Lame Deer-Ashland highway right-of-way to the Albert Lalonde Company in 1950 also added to the Tribe's coffers.

Both of the Soldier Gulch Logging Unit sales contained a clause with reference to sustained yield operations as follows:

> The Purchaser agrees in accordance with the requirements of Section 5 (b) (4) of the Corporate Charter of the said tribe of the Tongue River Reservation of Montana, that the timber on this unit shall be operated on a sustained yield basis as required by Section 61.11 Title 25 of the Code of Federal Regulations.

Without further definition, however, that clause could have had little effect, especially considering the complexities of sustained yield management and its dependence upon an accurate timber inventory, an item lacking at Northern Cheyenne Reservation at that time.

REORGANIZATION

While Northern Cheyenne timber sale activity grew, the Interior Department was initiating changes in its organization and the administration of Indian natural resources. In September, 1949, the Secretary of the Interior directed a reorganization of the Indian Service. Previously called the Office of Indian Affairs, the Service received the new name of Bureau of Indian Affairs (BIA). The directive established three levels of organization, each with a distinct function.[14] The top level of organization was the Washington Office. Under the immediate direction of the Commissioner of Indian Affairs, the Office was responsible for such activities as "determining program objectives and establishing policies, standards and procedures to govern all Bureau operations," developing and reviewing field service programs, representing the Bureau before the Congress and other Federal agencies, and directing Area and Field Offices.[15]

The second level of organization was that of the Area Offices. During the initial stages of the reorganization there were eleven Area Offices established on a geographical basis. In the mid-1960's an additional Area Office was added. Each Area Office was headed by an Area Director whose responsibility was to the Commissioner of Indian Affairs. They maintained responsibility for all Indian Office activities within their area and performed that function by:

1. Directing and supervising the field offices in accordance with policies and regulations established by the Washington Office.
2. "Directing the development of comprehensive reservation programs; providing the necessary technical advice and review; and, coordinating those features of such programs wider in scope of application than the local jurisdiction with the appropriate agencies."
3. Evaluating field operations in order that recommendations might be made to the Washington Office for changes that would help to accomplish more important goals.
4. "Recommending to the Washington Office revisions in national policies and objectives as necessary to implement local programs."[16]

Additional general responsibilities of the Area Director and his staff included doing all work that could more effectively be handled at the Area level and representing the Bureau in dealings with other agencies in the Area. Northern Cheyenne Indian Reservation was placed under the jurisdiction of the Billings Area Office, which served all reservations in Montana and Wyoming.

Field Offices, the third and final level of organization, functioned as the primary operational level for the Bureau. Superintendents of Indian Agencies were in charge of most of the Field Offices and were responsible for direct contact with the Indians and their governing bodies, the Councils, which were the heart of the entire BIA program. Each Superintendent was directly responsible to an Area Director except for "Detached Field Offices," which usually had a specialized function and reported to the Commissioner of Indian Affairs. Examples of Field Offices were Indian Agencies, non-Reservation schools and hospitals, and detached irrigation projects. In certain instances a Field Office could have a Sub-Office.[17] Although each organizational level had a general role, the Commissioner felt that some flexibility was both necessary and desirable. He therefore qualified the organizational requirements with the following statement:

> The general role of each organization level as described above does not limit the activities of each. The complexity of the Bureau's program requires much direct contribution by the Washington Office and the Area offices in the conduct of reservation programs; also, the field offices rightfully and necessarily contribute to the formulation of programs and policies. The basic functions described for each organizational level constitute the criteria adopted to guide the assignment of individual responsibilities.[18]

Within the reorganization plan was a detailed system of communication based upon the establishment of "line and staff" positions. The "line officers" were the Commissioner of Indian Affairs, Assistant Commissioners, Area Directors, and Superintendents of Field Offices. Only line officers had the authority to delegate responsibility, issue orders

to lower levels of organization, and approve certain actions or documents (such as timber sale contracts). They were the ". . .connecting links of administration."[19] A staff officer could observe, appraise, interpret, and advise; but he could not issue orders or direct any staff member or line officer at a lower level. An Area branch chief, for example, would send requests or instructions out over an Area Director's signature unless the Area Director had reservations about the proposed directive. If the matter was not resolved, it was bucked to the appropriate Assistant Commissioner or Executive Officer. The reorganization allowed most routine decisions to made at the Area and Field Office levels. It also was designed to establish definite roles and responsibilities while maintaining a flexible system for the dissemination of technical information.

The Commissioner gave Branch Officers many of the administrative tasks associated with implementing and operating Indian programs. Under the reorganization plan, the Branch of Forest and Range Management received 18 specific functions. Generally, the Branch of Forest and Range Management had to formulate plans, policies, and procedures for managing Indian forest, range, and wildlife resources on the basis of sustained yield principles; establish approved programs in Field Offices; review and make recommendations for improving such programs; and advise the Commissioner in all matters related to Indian forest and range management.[20]

FOREST MANAGEMENT PLAN

One of the assigned tasks for the Branch of Forestry was development of general plans for the ". . .conservation, utilization, and protection of forest, range, and wildlife resources on Indian lands."[21] Forest management plans were essential to sustained yield forestry practice as mandated by the 1934 Indian Reorganzation Act and embodied in Part 61, Title 25, of the Code of Federal Regulations. In 1953, the Assistant Commissioner encouraged Billings Area Director Paul Fickinger to consider such a plan for the Northern Cheyenne Indian Reservation.

He cited the Indian Reorganzation Act and the Code of Federal Regulations as authority for formulating "forest working plans," as they were called at that time. He outlined the essentials of a management plan as timber location, volumes, rate of growth under management, and evaluation of markets for forest products. The Assistant Commissioner noted the Secretary of Interior's obligation by law and proclaimed that preparation of new plans and modification of existing ones could not be delayed further, especially in view of the possibility that the BIA at some time in the future might turn management of Indian forests over to the Indians themselves, or to another Government agency. The Assistant Commissioner told Fickinger that such plans were not mandatory but were advisable for Northern Cheyenne and Blackfeet. Should the Area Office elect to prepare such plans, the Washington Office requested that they be completed before March 31, 1954.[22]

Area Director Fickinger replied that a management plan for Northern Cheyenne would be needed immediately should a market for stumpage develop in the area. He stated that he had been mindful of the need for a plan for that reservation for several years. He and his staff had not devised a plan due to lack of three of the essentials, namely timber location, volumes, and rates of growth. He noted that the Missouri River Basin Investigation (MRBI) timber survey crews had been working at Northern Cheyenne intermittently for three years. Until that survey could be completed, however, Fickinger did not advise formulation of a forest management plan for the Northern Cheyenne Indian Reservation.[23]

The introduction to the MISSOURI RIVER BASIN INVESTIGATION TIMBER INVENTORY stated that the purpose of the study was to establish the area of timber on the Northern Cheyenne Indian Reservation and the volume of commercial timber and timber products. It was hoped that then the data could be used to formulate a Forest Management Plan.[24]

In September, 1954, Percy Melis, then chief of the Branch of Forestry and later Billings Area Director, toured the Northern Cheyenne Indian Reservation. He commented that the Missouri River Basin Investigation was not complete at the time but already indicated a potential merchantable timber estimate of 200 million board feet, most of which

was in lower grade commercial timber. Operation of the small sawmill near the Agency provided insufficient data upon which to evaluate potential production costs and lumber quality. These he considered to be important to the "planned and orderly development" of the Northern Cheyenne timber. He also reiterated the need for a complete inventory and a forest management plan. That plan, according to the Chief Forester, should contend with the problem of excessively dense reproduction and large amounts of mature and over-mature timber. The situation changed little, however, for nearly a decade as no management plan was forthcoming.[25]

The survey included 299 sections in 15 townships and covered 71,000 acres of timbered land. Of that amount, 54,416 acres were owned by the Tribe and were determined to have an estimated 150 million board feet of commercial timber. Additional allotted lands raised the total commercial timber volume on the Reservation to 184 million board feet. Timber volumes averaged from 860 to 3,559 board feet per acre in townships inventoried. The report noted that reproduction was particularly dense throughout the timbered area and constituted "nearly impenetrable ground cover." That reproduction was spreading into the forest "fringe" where dryness retarded growth. Though such areas were non-commercial, they provided ground cover and shade for livestock.[26]

The entire forest, according to the report, was a "fringe" or "marginal" forest, according to standards of the time. That evaluation was made in comparison to the forests of western Montana. The outstanding characteristic of this "marginal" forest was the fact that the timber, pure ponderosa pine of all age classes, matured at a comparatively small size. As such they were believed likely to have a higher percent of defect. Adding to that possibility was widespread fire scarring in the stands of mature trees. The report indicated that defect from that source would affect 15 to 20 percent of the volume in the over-mature trees.[27]

In cruising the Northern Cheyenne forest, the MRBI crew employed what was termed the "strip (cruise) system" in heavier stands. A two-man crew would measure all trees larger than 10 inches by 2-inch diameter

classes on two one-chain strips through each timbered 40-acre tract. By that method they covered 10 percent of each tract. The land survey during which brass-capped steel pipe was placed at almost all section and sub-division corners facilitated that effort. Aerial photographs of each section provided the base for timber type maps and the information for acreage within each tract. Trees within each sample strip were measured with a Biltmore stick, except in instances of large diameter for which a diameter tape was used. After 1952 the number of personnel was reduced, and the MRBI staff changed the cruising technique for the remaining 37 percent of the Reservation's timber stands. Instead of a strip cruise, they used a sampling technique based on quarter-acre plots. The circular plot used had a radius of 58 feet and 11 inches. A plot was established at every two-chain interval, and all trees 10 inches or more in diameter at breast height (DBH) were measured, either with the Biltmore stick or with a diameter tape. The cruisers used aerial photographs to establish cruise lines and began the first plot on each line with one chain inside each sub-division line so as to assure that the selection process was not biased toward selecting only the best stands for measurement.[28]

In addition to the cruise data, the report included a brief statement relative to previous cutting activity on the Reservation. It cited evidence (old, decaying stumps) of earlier activity associated with work for the Northern Pacific Railroad in the 1880's and the existence of numerous old sawmill sites where slabs and mill refuse remained in the forest. The report provided no further information on those earlier cuts, but it declared that the forest had already ". . .regained its semblance to a normal forest" by the time the survey was conducted (early 1950's).[29]

Records for timber cutting were scarce at the Agency, and the MRBI timber cruisers estimated that 28,500 acres were cut over prior to 1939, based on what they had observed. They could devise no estimate of volumes harvested. The harvest between 1939 and 1954 was estimated at 11 million board feet on 9,500 acres, raising the total acreage previously

PONDEROSA PINE VOLUME TABLE
NORTHERN CHEYENNE INDIAN RESERVATION, 1954

Diameter Breast High	*Number of 16-foot logs*												*Basis Number Trees*
	1	*1 1/2*	*2*	*2 1/2*	*3*	*3 1/2*	*4*	*4 1/2*	*5*	*5 1/2*	*6*	*6 1/2*	
	Board Feet, Scribner Decimal C Rule (in tens)												
10	3	4	5	6	7	9	10	-	-	-	-	-	-
12	5	7	9	11	13	15	17	19	21	-	-	-	5
13	5	8	10	12	15	17	20	22	25	-	-	-	18
14	6	9	11	13	16	20	23	26	29	-	-	-	30
15	6	9	11	15	19	22	26	30	34	-	-	-	29
16	7	10	12	16	20	24	28	32	36	40	-	-	55
17	-	-	14	18	23	27	32	36	40	44	-	-	47
18	8	13	15	20	26	31	36	41	46	51	56	-	35
19	-	-	17	22	28	33	38	44	49	54	60	-	31
20	9	15	19	25	30	36	42	48	54	60	65	-	26
21	-	-	22	28	35	41	48	54	61	68	74	-	21
22	11	18	24	32	39	47	54	62	69	76	84	96	24
23	-	-	28	36	44	52	61	69	77	85	94	100	11
24	12	22	32	40	49	57	66	74	82	91	99	108	4
25	-	-	37	46	55	64	73	82	92	101	110	119	5
26	-	33	41	47	57	66	76	88	98	107	116	126	5
27	-	-	-	50	61	70	82	95	107	115	124	133	1
28	-	-	-	60	65	74	86	101	114	122	132	141	-
29	-	-	-	-	69	79	92	108	122	130	139	149	-
30	-	-	-	-	73	84	97	115	129	137	147	155	-
	-	-	-	-	81	-	112	-	-	-	-	-	-
												Total	347

All measurements made on Northern Cheyenne Reservation. Stumps heights 1 to 1.5 feet; top diameter inside bark 8 inches. Scaled as 16-foot logs, 4 inches for trimming. Volumes evened off by curves. Data ourside box are extensions of curves. Field measurements by: Donald E. Maynard and Roger A. Ramsey. Compiled by: Thomas L. Carter.

cut to 38,000. The apparently random cutting of the past they attributed in large part to the absence of good access roads.[30] Certainly other factors figured in the location of previous cuts, including proximity to users and salvage opportunities. However, the paved highway connecting Lame Deer with Ashland and Crow Agency could only improve marketing potential.

Victor K. Meeker, BIA's Forest Manager at Northern Cheyenne from 1954 to 1959, sought the advice of the U.S. Forest Service in estimating the Reservation's growth potential and annual volumes which might be cut under the sustained yield principle. The U.S.F.S. Region One's chief of the Division of Forest Economics replied to Superintendent Carl L. Pearson. He referred the BIA to the U.S.D.A. TECHNICAL BULLETIN NO. 630 and RESEARCH NOTE NO. 88 on establishing yield and growth rates for ponderosa pine. He estimated a 1 to 2.5 percent growth factor applied to the MRBI forest inventory would give a "reasonably good estimate" of growth for the following 10-year period. By multiplying a mean annual growth of from 50 to 75 board feet per acre by the total commercial forest area, it would be possible to establish a basis for sustained yield under good management.[31]

At the time the MRBI report was issued in 1956, there were three sawmills near Northern Cheyenne Indian Reservation. Paul Siegfried had just completed work on the Soldier Gulch No. 2 Logging Unit with his 500 thousand board feet per year capacity mill at Lame Deer. A. L. Norris, with the Tongue River Lumber Company, had just erected a mill with a 7 million board feet annual capacity at Lame Deer, and the Black Lumber Company operated a mill of 2.5 million board feet annual capacity in Ashland.[32] Whether Northern Cheyenne could produce enough timber to sustain all three mills from the sustained yield management perspective had yet to be evaluated. However, there was U.S. Forest Service, private, and Crow Indian timber in the general area.

When Paul Siegfried completed Soldier Gulch No. 2, he asked the Tribal Council to authorize another timber sale. The result was Alderson Gulch No. 1 Logging Unit, which was advertised in the spring of

1955. At oral auction, the Siegfried Lumber Company gave the highest bid at $17 per thousand board feet. The Tribal Council, however, refused to authorize a sale to Siegfried. The Superintendent said the Tribal Council apparently saw the Tongue River Lumber Company's new mill as a better chance for increased Indian employment on the Reservation. Also, Siegfried's operations were plagued by constant sale administration problems.[33] The Bureau refunded deposits Siegfried had made with his bid for the sale, and prepared to readvertise the unit for sale. A delay in readvertisement resulted from a debate among Billings Area, Northern Cheyenne Agency, and Central Office Forestry staff as to appropriate stumpage values.[34] The Branch of Forestry received no bids by September 14, 1956, the bid opening date for the reoffering of this unit. At least part of the reason there were no bidders was that the lumber market broke in mid-1955 after about five years of generally good markets. Thereafter, the Branch of Forestry personnel entered into negotiations with the Tongue River Lumber Company under the provisions of 25 CFR 61.14 (now 141.8[c]). The Tribe recommended and BIA approved a contract with Tongue River Lumber Company for an estimated 11 million board feet of timber to be harvested from the unit, only 5 million board feet of which was cut by the time a certificate of completion was issued in 1972, after a damage settlement of $15,000 was secured by the Department of Justice on behalf of the Tribe and the BIA.*[35]

The Tongue River Lumber Company did open employment opportunities for Indians at Lame Deer. In the spring of 1955, the mill hired 35

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*The Alderson Gulch Logging Unit sale was declared in default in early 1963. The BIA went through a lengthy process to establish damage to the sellers (Tribe and allottees) that resulted from Perry Brothers' failure to harvest the designated volume on the unit. Net damage of $30,000 was based upon stumpage rates in effect at the time of default. Failure to secure a settlement through administrative channels compelled the sellers and the BIA to refer the problem to the Department of Justice for prosecution. The settlement of $15,000 was made out of court in 1969. This information is based upon an evaluation provided by Billings Area Forester Paul Kipp in a letter to the author on February 7, 1980.

Northern Cheyenne men to work during the year.[36] To sustain full production at the mill, the company requested an additional sale of timber from an area that was to be known as the Boundary Logging Unit. The unit derived its name from its location on the boundary between the Northern Cheyenne and Crow Indian Reservations. Topographically, the timber in that area constituted a single unit, and both Tribes agreed to a unit sale. Victor K. Meeker, Forester at Northern Cheyenne, explained in his Forest Officer's Report for the unit how the sale related to management planning on his reservation:

> Management-wise the sale is in line with management policy of the Northern Cheyenne Reservation, i.e., to initiate sales in the small scattered stands to run concurrently with the larger sales (Alderson Gulch) in the central stand. Present cutting rate on the Northern Cheyenne Reservation indicates a 3 million annual cut leaving one-third plus million allowable cut in the scattered stands each year.[37]

Fifteen allotments comprised the Boundary Logging Unit, ten on the Northern Cheyenne Reservation (one was later dropped) and five on the Crow Reservation. It was estimated that the unit would yield 846 thousand board feet of over-mature ponderosa pine, 168 thousand board feet from Northern Cheyenne and 678 thousand board feet from Crow.[38]

Despite an auspicious start, the Tongue River Lumber Company was not destined for a long life. In 1958, the company's sawmill at Lame Deer was destroyed by fire. The firm's planing mill was not affected, but the company decided not to rebuild. Heavily in debt, the company officials wrote Billings Area Director Percy Melis to request that the BIA terminate its contracts on the Boundary and Alderson Gulch Logging Units.[39] The BIA did not cancel Tongue River's obligations under the contract. Instead, they worked with the Tongue River Lumber Company to obtain an assignment of the Boundary Logging Unit contract to the Saunders Lumber Company of Hardin, Montana, on February 20, 1960, and an assignment of the Alderson Gulch Logging Unit to A. L. and Leon Perry, who also purchased their equipment at Lame Deer. The Saunders Lumber Company used a sawmill operated by a man named Simpson at Lodge Grass and

contracted logging operations. Problems with the logging phase resulted in the award of an extension of the contract to December of 1963. Other problems resulted when Crow Agency's Forester resigned, but they were solved by having Ray Theiler, Forester at Northern Cheyenne, travel to the mill at Lodge Grass to scale timber cut under the contract. When the contract expired in 1963, all of the timber had been cut from the allotments under contract on Northern Cheyenne. An additional year-long extension was granted for completing cutting on the Crow allotments, and the sale was closed on December 27, 1965.[40]

While Tongue River Lumber Company still held the contract on the Boundary and Alderson Gulch Logging Units, a fire which was started by children playing with matches added to the volume of timber that needed to be cut from the Reservation forest. That September, 1959, fire burned 1,130 acres of forest and grasslands in the Dry Creek Drainage in the southwestern portion of the Reservation. Based upon the information in the MRBI Report No. 150, Forest Manager W. Howard Welton estimated the damaged timber at 936 thousand board feet. That amount was advertised for sale at a minimum rate of $5 per thousand board feet. The Area Director noted that the rate was lower than that being received on other sales active in the Area. Considering below-average size, expensive operating costs, and the fact that the salvage was necessary, the Area Director approved the advertisement of the unit.[41]

At opening time no bids had been received on the unit. A revised appraisal reduced the estimated stumpage value to $2.65 per thousand board feet, and the Area Director authorized readvertisement with that minimum rate. The Tribal Council approved the procedure, and another attempt was made to gain interest in the sale. Again no bids were received, and Superintendent Don Jensen recommended that no further efforts be made to advertise the unit. Although Paul Siegfried and the Perry Brothers maintained mills at Lame Deer and both the Black Lumber Company of Ashland and the Saunders Lumber Company of Hardin were potential bidders, the depressed market dictated that no sale would be made even at that extremely low price.[42]

Those area sawmills, however, were important for more than the money derived from stumpage. The three mills on or immediately adjacent to the Reservation provided employment to Tribal members, who were potential losers in a depressed lumber market situation. Paul Siegfried was employing four Indians in 1965; Perry Brothers employed 13 Indians in 1959 and increased that number briefly to about 30 in 1960; and the Black Lumber Company in Ashland usually had eight Indians employed.[43] Unemployment had been a problem since the Reservation was established, and the timber resource had a significant potential for alleviating at least a portion of that problem.

The potential for Northern Cheyenne forest productivity seemed to increase as Foresters took a closer look at the 1956 MRBI inventory. In 1961, W. Howard Welton, Forester at the Agency, revised the estimated annual allowable cut under sustained yield principles upward to 4 million board feet per year from Victor Meeker's original estimate of 3 million board feet. The revision was based upon an analysis that timber stand improvement, thinning in particular, would be necessary on the forest and would result in a significant increase in the annual growth rate. Said Welton:

> It is our belief that ultimately the forest resource on the Northern Cheyenne Reservation is capable of supporting a diversified wood industry that can provide employment for 75 to 100 men an average of ten months per year.[44]

Forest Manager Welton also indicated that it was time to consider more than the value of sawtimber in assessing potential harvesting programs. Fence posts and poles could be cut and treated, and selectively cutting such materials could aid in thinning stands.[45]

THE WEAVER REPORT: A "SICK FOREST"

The Branch of Forestry began early in 1962 to do something about the actions that would be necessary if the Northern Cheyenne forest were to reach its full production potential. In May of that year the Agency began thinning as a means of timber stand improvement. The timber stand

improvement project was the direct result of a recommendation made by Chief Forester Kephart in early 1962 to devise such a project using student labor on the Reservation. Working upon the advice of the Area Director, the Northern Cheyenne Agency Forester obtained the plans and reports for a timber stand improvement project (TSI) at the Jicarilla Apache Reservation. From that plan, he devised a similar project for Northern Cheyenne with the following objectives:

1. To provide high school students with an opportunity to earn money.
2. To teach them good work habits, promptness, dependability, etc.
3. To increase the intensity of management on. . .the forested lands.[46]

When the project began in May, 1962, the Branch of Education funded participation by 12 students and two instructional aides. The Branch of Forestry assumed the financing and supervision at the beginning of the following fiscal year. The work involved thinning in immature stands, with pruning for remaining trees.[47] All of the cutting was done with hand axes, since it was feared the students would be unable to use power saws safely.

Harold Weaver, a BIA Forester attached to the Washington Office, visited the Reservation to review those improvements and to report to George Kephart, then Chief of the Branch of Forestry. Weaver's report and analysis were to form the basis for improvement work in years to follow. His report, entitled "Timber Management Possibilities on the Northern Cheyenne Indian Reservation," focused primarily on the need to reduce the competition of heavy understory and to harvest the extensive, even-aged, mature and over-mature age classes of ponderosa pine before beetles accomplished that task first. A younger, "thrifty-mature" age class was threatened by the excessive understory, and third age class, that 50 years of age, was severely over-stocked and in need of thinning.[48] That 50-year age class was the result of reducing fire damage on most of the Reservation since 1912, and in many areas that class was represented by "many thousands of trees per acre."[49]

The majority of the reproduction class also was too large in size to accomplish thinning through prescribed burning, according to Weaver. Fire hazard was high and excessive heat would destroy many of the trees they would have hoped to save.* Weaver did not doubt, however, that prescribed burning could have been effective in the past. As an example he noted an extensive 1932 burn in the vicinity of Ice Well Road, where the fire effectively thinned large areas of the 1912 reproduction at a time when the "dominants" in the stand were only 1.5 to 3 inches in diameter at ground level. Weaver reported that all of the younger trees within the burn area in 1962 were growing rapidly and that the over-mature survivors of the fire appeared healthy and vigorous.[51]

Weaver discovered that his review of the timber stand improvement initiated at Northern Cheyenne immediately prior to his visit was a fortunate one. The work, concentrated in Sections 34 and 35 of Township 2 South, Range 42 East, included pruning of "open-growth, orchard type trees" that had invaded the grasslands, as well as thinning and pruning in a 2.5- to 3-chain wide strip eastward from the grassland area into

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*Weaver was not the first to consider the possibilities of prescribed burning as a stand improvement technique at Northern Cheyenne, although his work was the basis for Welton's comments. Weaver had pioneered prescribed burning in ponderosa pine stands at Colville and Fort Apache Agencies. In March, 1960, Northern Cheyenne Agency Forester W. Howard Welton had raised that issue:

> Research is needed to determine if it is feasible to use fire as a tool for thinning purposes. A project could be set up using deep humus moisture coupled with our present fire danger rating system and weather predictions to dictate the proper time to burn. Such a burn would be designed to consume the surface needles without damaging the underlying organic material. Two questions must be answered. (1) Would a surface needle fire product sufficient heat to destroy the weaker, most highly suppressed seedlings and saplings, allowing the stronger, more dominant of the understory to survive without serious damage or retarding of growth for too long a period? (2) Can burning conditions, within tolerable limits, ideal for the desired result under (1) be predicted by the above method?

It is not known whether such research was conducted. Probably, it was not.[50]

the denser forest. Where the crews had pruned, they sometimes cut limbs several inches in diameter and drastically reduced the crown foliage. In a few instances, particularly in the denser pole stands, pruning resulted in leaving nothing but a small terminal crown. The thinning efforts still did not provide adequate spacing, but the hand piling and low-cut stumps reflected careful work. Weaver complimented the appearance of the improved stand and added: "Unfortunately, the pine beetles will considerably alter its appearance."[52]

Weaver discovered that many of the pruned trees had been attacked by red turpentine beetles (*Dendroctonus valens*), while boles of small merchantable trees cut in the thinning attempt showed evidence of attack by two different species of *Ips* beetles. Crews killed many of the beetles by spraying with lindane. Not all of the beetle broods were destroyed, however, and there remained the threat of an attack on more of the green trees.[53]

Harold Weaver consulted with Wendell Harmon, Forester in charge of the Forest Service's Region 6 reforestation and timber stand improvement, and recommended a future course of timber stand improvement at Northern Cheyenne. Thinning was to have the highest priority, while pruning was to be avoided. He recommended limiting thinning to stands where there was no overstory or where that overstory was scattered. That approach would eliminate the loss that might occur should the overstory later be logged where expensive investments in thinning had been made. He further recommended that thinners leave a 12' x 12' space for each tree up to 4 inches in diameter at breast height. Larger trees would be more widely spaced in relation to tables developed by Forest Service researchers. In no instance were trees larger than 5 inches D.B.H. to be cut unless diseased or deformed, and all cuts were to be made about one foot from the ground and on a slant. Slash from the thinning activities was to lay where it fell.[54]

Harold Weaver made the last recommendation with reluctance. He knew that heavy winter snows and the beetles posed some threat to the reserved trees, but he had greater fear of the fire threat, and hazard

reduction had been a special concern to him. His consultants in the Forest Service, however, told him that the thinning slash added only minimally to the existing hazard (already high in many areas at Northern Cheyenne) and that fires, should they occur, could be fought more easily in the thinned stands. Weaver reluctantly deferred to the judgment of the Forest Service men who had more experience in timber stand improvement. He could not help but add an observation, however, that fires in unimproved stands did not result in the loss of the $40 to $80 investment that was added to improved stand value through thinning costs.[55]

While Weaver had a healthy respect for fire, he could not ignore his own observations regarding the beneficial effects of the 1932 burn that had provided a natural thinning mechanism. He declared that prescribed burning should be considered as a method of hazard reduction. Tests would be needed, and those would have to be under the immediate supervision of the Area Forester.[56]

Weaver noted that forest development could not be divorced from timber sale policy. All of the small sale operations of the past had done little to eliminate the vast stand of over-mature and decadent timber, while often adding to the fire hazard. Weaver advised the Branch of Forestry to offer all of the over-mature and decadent timber on Northern Cheyenne for sale under one or two contracts covering a ten-year period. It was his belief that a sale of approximately 100 million board feet of timber would attract a medium or small sawmill enterprise that may have had problems competing with larger operations during the recession which was occurring in the lumber market at that time. Attracting such an enterprise to Northern Cheyenne could benefit the employment situation for Tribal members, although it would require additional staffing in the Forestry Branch at the Reservation.[57]

Aside from the benefit of harvesting the over-mature timber from the overstory, logging operations could be managed so as to enhance the stand improvement effort by destroying some of the dense understory. Weaver recommended that operators be required to employ tractors for skidding and slash piling, even if it were to raise the cost of operations and

reduce stumpage fees. Said Weaver:

> It may be better, however, to accept lower stumpage prices than to get nothing for the timber, or to leave the stand in such poor shape that future productivity will be impaired.[58]
>
> This is a sick forest. To restore it to good health the cures will necessarily have to be drastic. . .
> Under future intensive management, this forest can contribute substantially to the economic and social improvement of the Northern Cheyenne Indians.[59]

Harold Weaver's report on the possibilities for forest management at Northern Cheyenne, although not the first consideration of intensive management for the Reservation, marked the transition from extensive management to a new era of intensive treatment. The report graphically detailed the problems that had arisen by excluding fire for decades without taking commensurate steps toward stand improvement. It also showed the inextricable connection between all of the phases of management from marketing and harvesting to protection and timber stand improvement. Accordingly, it once again called attention to the need for a Forest Plan on the Northern Cheyenne Indian Reservation.

CHAPTER VI

FOREST MANAGEMENT PLANS AND INTENSIVE FOREST MANAGEMENT

1962 FOREST MANAGEMENT PLAN

On November 1, 1962, Northern Cheyenne Agency Forest Manager W. Howard Welton and Superintendent Don Jensen signed off on the first Forest Management Plan for the Northern Cheyenne Indian Reservation and submitted it to the Area Director for his recommendations. The brief Plan, five pages plus map, detailed a history and description of the forest and listed the Missouri River Basin Inventory as the source of timber volume estimates. The impetus for compiling the Plan came from Harold Weaver's report of timber conditions on the Reservation and the associated recommendation to cut approximately 100 million board feet of timber on an accelerated annual allowable cut.[1]

Prior to the formation of that Plan, the basic management direction other than legislative mandates and official regulations was Victor Meeker's Forest Officer's Report for the Alderson Gulch Logging Unit dated August 31, 1955. In addition to the sale-related information, Meeker's work included an estimate of annual allowable cut on a sustained yield basis of 3 million board feet per year for the Reservation forest, with a basic policy of harvesting on one or more large units from the central timber stands while supplementing volumes through smaller sales from the outlying, scattered stands. His annual allowable cut had been formulated before all of the inventory results were in on the MRBI inventory, and subsequent estimates from the final inventory raised the estimate of the allowable annual cut to 4 million board feet.[2]

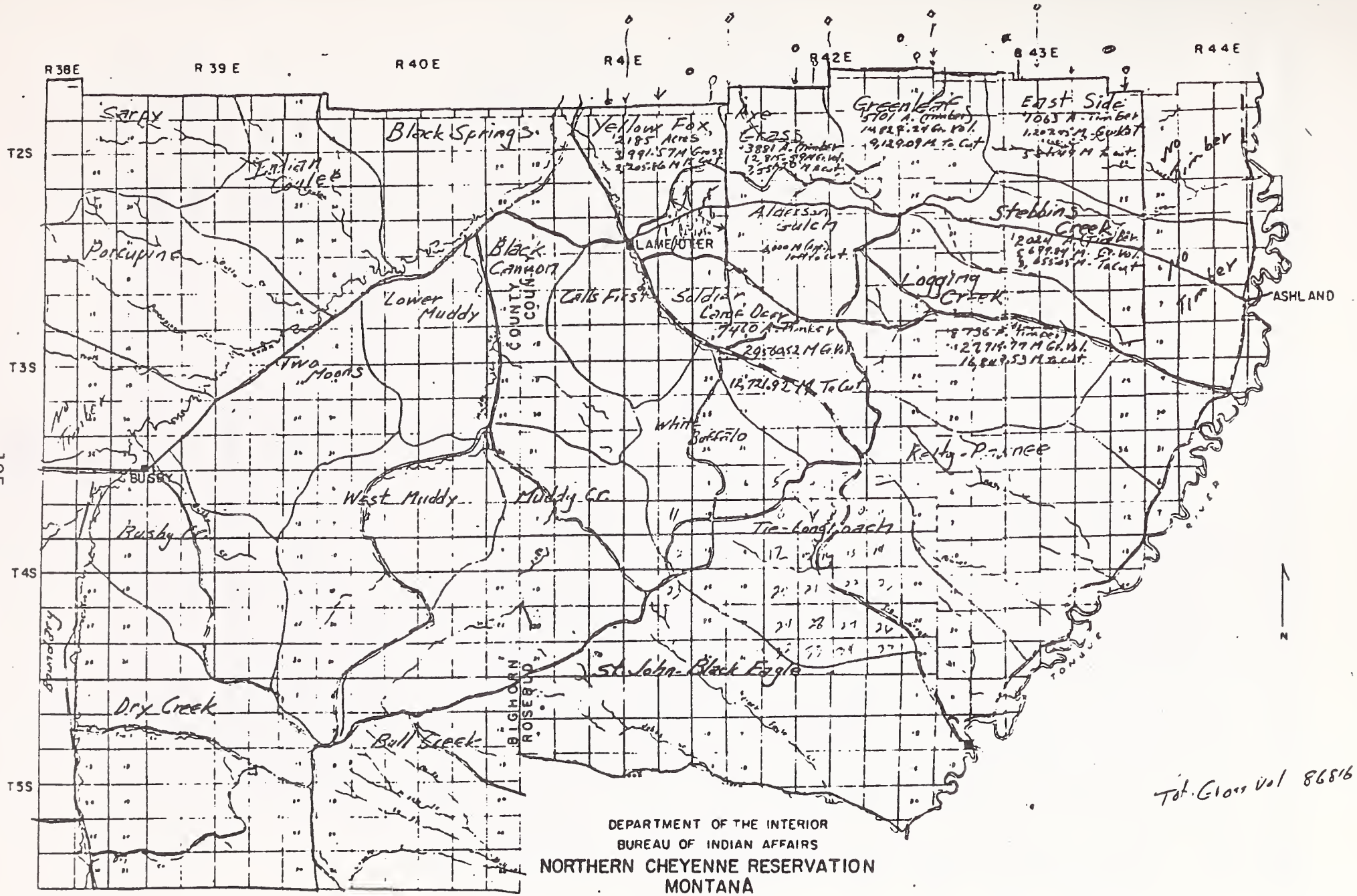
The proposed 1962 Forest Management Plan incorporated ideas from the Alderson Gulch Forest Officer's Report, Harold Weaver's 1962 report

on timber management possibilities, the MRBI inventory, and historical data from a 1926 report by E. W. Hartwell, Jr., a forester with the U.S. Forest Service. It retained Meeker's suggestion for large sales from the central stand, accompanied by smaller sales from the scattered stands. Despite the estimate of 4 million board feet as an acceptable allowable annual cut for sustained yield purposes, the Management Plan borrowed from Harold Weaver's suggestion that it would be beneficial for forest productivity in the long to consider seriously an accelerated cut, or what is known as "periodic sustained yield."[3]

Forester Welton declared that it was not his intention to ignore stumpage returns in the Management Plan. However, he stated that stumpage values should be considered subordinate to the purpose of establishing a stable wood products industry to provide employment for Tribal members on the Reservation. He also considered stumpage values subordinate to maintaining ". . .a desirable watershed, a satisfactory wildlife habitat and protect[ing] aesthetic values of the forest."[4]

The Plan recommended that an accelerated cut be accomplished in 10 years whereas an annual sustained yield, based purely upon volumes, would result in cutting cycles of 30 years. Without an accelerated cut, it was feared that a large percentage of the timber would be lost to fire, insects, and old age. Following the initial period of accelerated cut, the Branch of Forestry would then curtail cutting or would minimize it to sustain whatever industry might develop. During the period of reduced cutting, it would be hoped that the industry could obtain raw materials from the nearby Custer National Forest and private timber owners.[5] To accomplish whatever harvesting schedule that might be agreed upon, BIA Forester Welton divided the Reservation into logging units based upon geographical considerations. (See map.)

None of the four sawmills operating on or near the Reservation at that time was viewed as being large enough or with sufficient finances to manage the large sale anticipated through an accelerated cut. It would be necessary, as Harold Weaver had stated, to advertise well beyond the boundaries of the Reservation to attract the type of business



DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS
NORTHERN CHEYENNE RESERVATION
MONTANA

Logging Unit Map

Tot. Gross Vol 86816 M

From 1962 Forest Management Plan

enterprise capable of harvesting Northern Cheyenne timber and manufacturing it into lumber or other wood products, hopefully with the use of Northern Cheyenne Indian labor.

Despite what appeared to be momentum toward development of a large sale of Northern Cheyenne timber following Harold Weaver's report and the 1962 Forest Management Plan, other pressing forestry needs and poor markets were to dictate that sale preparation be delayed. The Plan itself was not accepted beyond the Agency level. The departure from the traditional concept of an annual sustained yield to a periodic sustained yield was one factor in this Plan failing to receive approval. The BIA had a trust responsibility toward development of natural resources that dictated the highest possible return from the timber resources. It was, and remains, one of the Branch of Forestry's more difficult tasks to balance the need for Indian employment and best management practices against the responsibility to earn for the owners the most money from the sale of Indian timber. Accordingly, the 1962 Forest Management Plan was dubbed a "preliminary" plan by the Assistant Commissioner of Indian Affairs. A new plan would be required before any large 10-year sale could be approved.

Delays in timber sale preparation and revision of the Forest Management Plan came from two sources: lack of an adequate timber inventory and the start of timber stand improvement work at Northern Cheyenne. In addition, logging resumed on the Alderson Gulch Sale and further taxed the Agency Forestry staff's time. Said Assistant Area Director Ned Thompson:

> Some presale work has been accomplished but resumption of logging operations on the Alderson Gulch Unit in October and the necessary supervision of forestry activities under the Accelerated Public Works Program have temporarily halted sale preparation activities. We expect this work to be resumed as soon as the press of other work permits.[6]

Additional "press of other work" resulted when the Federal Government initiated public works projects on the Reservation in 1962.

AREA REDEVELOPMENT ADMINISTRATION AND ACCELERATED PUBLIC WORKS PROGRAM: 1962-1964

The Federal Government determined that the unemployment situation at Northern Cheyenne, as on other Indian reservations, was too acute to ignore. Unemployment had been a problem since the formation of the Reservation and was alleviated only during the era of the Great Depression when the Federal Government sponsored activities of the CCC-ID and the IECW. While the Branch of Forestry continued to plan for the possibility of increased Indian employment through establishment of a stable wood-using enterprise on the Reservation, the Congress took temporary relief measures by passing Public Law 87-658 in January, 1963.

That law created the Accelerated Public Works Program (APW), specifically designed to reduce unemployment in poverty-stricken counties and on Indian reservations nationwide. Administered by the Area Redevelopment Administration, it provided funds to employ needed individuals in publicly useful projects with a time limitation of one year. Although APW was not initiated until 1963, the Area Redevelopment Administration inaugurated work through the Branch of Forestry at Northern Cheyenne with a telephone call in November of 1962 requesting that the staff ". . .activate the program with all haste."[7] Accordingly, the Branch of Forestry hired 21 people for the program on November 2 and gradually increased enrollment to 127 persons. (That figure involves some duplication as men from one project later joined other projects.)

The program at Northern Cheyenne was divided into two phases. The first phase began in November, 1962, and lasted until June of the following year. The projects for that phase were limited to timber stand improvement. The second phase began in June, 1963, and terminated in January, 1964. It involved timber stand improvement and construction of fire-truck trails, visitor use facilities, and a forestry warehouse.[8]

The Forestry staff implemented timber stand improvement projects by thinning over-stocked stands. They classified work areas by site, size of trees, and density of overstory. They gave priority to thinning areas with the smallest diameter trees and no significant overstory.

By descending order of priority, they then listed slightly larger diameter trees with no overstory, small diameter trees (1" to 2" DBH) with scattered overstory, and slightly larger trees (2.1" to 4" DBH) with scattered overstory. They recognized that in some instances the size of the trees was due to site factors other than density of the stand, and that element was considered in selecting sites for thinning.[9]

With 90 men working in the first phase of the APW program, W. Howard Welton faced a problem with shortage of trained staff to mark trees ahead of the crew, which could thin from 10 to 20 acres per day. Welton overcame that problem by training men on the APW crew to mark trees under the direct supervision of a Forestry Technician. He recogized the potential pitfalls to that procedure, but decided that it was the only alternative.[10]

As thinning proceeded, the Branch of Forestry called upon the U.S. Forest Service's Division of State and Private Forestry in Missoula, Montana, which sent an entomologist to the Reservation to assess the potential risk of bark beetle infestation. He advised that with material cut prior to April 1, there was low risk, and all trees under 2 inches in diameter were thought to pose no problem. Thinned trees larger than 2 inches in diameter could be treated to reduce risk of infestation by peeling to the extent that no strip of bark wider than 1 1/2 to 2 inches would remain.[11]

Slash resulting from the thinning operations posed more serious problems. Welton conservatively estimated that the slash accumulation averaged 25 to 30 tons per acre. Using Intermountain Forest and Range Experiment Station publications as a guide, he determined that slash flammability would reach a rating of "Extreme" for the first year and would diminish to "High" after five years.[12]

When inclement winter weather delayed thinning efforts, the crew was put to work in piling slash and constructing fire trails. Such trails would constitute a fire line that would help prevent fires occurring outside the thinned areas from spreading into the improved stands with their dangerous slash accumulations. On the other hand,

they would contain fires starting in the thinned plots. Forest Manager Welton, however, had no illusions about fire in the thinned areas. He said that none of the reserve trees could survive fire in the slash. He recommended that the Forestry staff maintain careful observation of the slash and its flammability over the following years.[13]

Where only time could determine the ultimate benefits of the APW work from a silvicultural standpoint (depending upon the quality of judgment in spacing of crop trees), the economic benefits for the Tribe were immediate and direct. Many Tribal members, for the first time ever, were able to earn enough money to survive the winter without welfare payments. Those participating in the program also benefited from employment exposure that reinforced good work habits.[14]

The APW projects for the period from June, 1963, to January, 1964, included much less effort in timber stand improvement. Only seven people were employed in thinning and pruning, for a total of 3.82 man-months of activity. This compared with 32 men employed for a total of 27.75 man-months in constructing forest truck trails, 53 people employed for a total of 31.5 man-months in building visitor use facilities near Reservation communities, and 35 people working a total of 52.85 man-months in constructing a forestry warehouse. The same forestry office warehouse has housed the Branch of Forestry at Northern Cheyenne since that time. Nearly half of the total expenditures in the program was used for wages and employee benefits. Of the 127 positions filled, Indians received all but five, which were given to men with skills for which no Tribal members could be found. Two of the five non-Indian employees were married to Tribal members.[15] Despite the desirability of the immediate income from such Federally funded programs as APW, the Branch of Forestry remained cognizant of the need to establish a more permanent enterprise on the Reservation in order to provide stable employment and commercial use of the Reservation's timber. Area Forester Nicholas Welter inspected the Area Redevelopment Administration's program and forestry work on the Reservation in February, 1963, and he recommended that the staff at Northern Cheyenne continue to look to the future.

Accordingly, he told them to make plans and preparations to collect timber inventory and quality data and to complete all other work required in advance of a major timber sale.[16]

THE GIBSON REPORT

In June, 1963, the Northern Cheyenne Tribal Council, taking increasing interest in the future of their timber resource, requested William K. Gibson of the University of Montana (then called Montana State University) School of Forestry to evaluate the forestry situation at Northern Cheyenne. After a brief visit to the Reservation and discussions with the Agency Forest Manager, Gibson outlined several recommendations for the Tribal Council. He prefaced those suggestions with a reminder to the Council that it was a complex task to entice a new wood products industry into the area. According to Gibson, it was a "marginal" timber producing area with severe limitations in the form of poor timber quality and lack of adequate transportation facilities.[17]

Gibson foresaw lack of demand for timber products from the Tongue River region generally as the greatest problem to overcome. The solution to that problem would not be easy, and would require ". . .time, patience and a high degree of teamwork between the Tribal Council and the Indian Service. . ." He speculated that success in obtaining a viable timber-using industry also might require cooperative agreements with the adjoining National Forests to insure sufficient raw materials to sustain such an operation. He said that an annual cut of 6 to 8 million board feet could sustain only a small operation. The "average medium sized mill in Montana" required 20 to 30 million board feet annually in providing jobs to 75 to 100 men.[18]

Gibson also recommended that the Tribe establish a resource development committee to coordinate efforts between the Tribe and the Branch of Forestry in determining long-range goals and in planning for the Northern Cheyenne forest. In addition, he proposed a primary market survey for the area and a study of the feasibility of attracting wood-using industries into the vicinity. To assist in promoting Northern Cheyenne

timber, he suggested that the Tribe and Branch of Forestry compile a "fact sheet" to illustrate for potential users what raw materials were available from the Reservation. Whether these recommendations were the result of conversations with the Forestry staff at Northern Cheyenne or whether they originated with Gibson is uncertain. Whatever their source, all proposals eventually were met.[19]

Gibson made additional recommendations associated with the technical aspects of management on the forest. He recognized, as did others before him, the need to upgrade the forest inventory data. He told the Council that the inventory should be converted to a "permanent plot continuous method" (C.F.I. or Continuous Forest Inventory). Two techniques were available to accomplish that conversion. One utilized the Intermountain Forest and Range Experiment Station Integrated Management Inventory System, a costly process involving a completely new inventory. An alternative was establishment of a permanent plot system or Continuous Forest Inventory (CFI). That system would allow Foresters on the Reservation to make use of existing MRBI data for all but growth information, as CFI did require growth data. His recommendation favored the latter system due to the cost factor, although he praised the Integrated Management Inventory method as a more complete planning tool.[20]

In another recommendation, Gibson faulted the Branch of Forestry's regulation requiring that contract volume estimates be accurate within the range of plus or minus 5 percent. The university faculty member called that requirement unrealistic in view of timber age and characteristics for the Northern Cheyenne forest. Much of the old timber on the Reservation was 300 to 400 years old and only high enough to yield 2 to 3 logs. He said that making the estimate requirement less stringent would result in saving on the cost per unit of timber sale preparation and would allow Foresters to have more time for other work. The Accelerated Public Works Program was in full operation on the Reservation at that time, and it was increasingly obvious, as seen in Gibson's remarks and those of the Area Forester, that the staff at Northern Cheyenne was over-taxed by the workload. The recommendation to require

less stringent results from the contract volume estimates, therefore, carried added weight.[21]

A third and final suggestion from the technical viewpoint was that all slash resulting from thinning projects should be disposed of when it constituted a threat to reserve stands as an increased fire or insect hazard. Certainly the Forest Manager already knew that, as Harold Weaver had struggled with his own sense of better judgment in permitting the slash to be left on the ground among the reserve trees. Gibson did not dispute that the process was not economical. He reinforced what Weaver had already stated, however, that in the event of fire it would be "false economy."[22]

The total of consultant Gibson's review of forestry on the Northern Cheyenne Indian Reservation, then, was not much new. Marketing studies were recommended much earlier, and Harold Weaver had adequately evaluated the situation with regard to forest improvement work. The Continuous Forest Inventory had not been mentioned previously, although the Branch of Forestry had recognized the need to upgrade the Missouri River Basin timber inventory. Perhaps the greatest benefit from Gibson's evaluation was the confidence he may have established among Tribal members with regard to the Branch of Forestry's overall management of their timber resource. From their outside consultant, the Tribal Council heard the following summary of timber management on the Reservation:

> In summary, I would say that the tribe is fortunate in having a forestry staff as interested, dedicated and capable as you have on the Northern Cheyenne Indian Reservation. They appear eager to help you obtain the maximum returns from the forest resources on the reservation. My recommendations are merely observations that may aid in arriving at a plan for the solution of a very difficult and complex problem. This solution will not be easy or quick. Because of the geographic location of the timber land in relation to established industry and markets, you are at a distinct advantage. But exploring the possibilities of attaining a good demand for your timber resources is a worthwhile endeavor.[23]

In March, 1963, the Branch of Forestry already had begun the effort to accumulate more data for a proposed timber sale. In that month Forest Manager Howard Welton conferred with the Forest Service, seeking their assistance in compiling a timber type map for the Northern Cheyenne Indian Reservation. A timber type map would help in complying with the guidelines which allowed a maximum ±5 percent statistical error in the pre-sale estimate of volume to be cut. The Agency opted to prepare the timber type maps in-house and supplemented existing MRBI data by conducting a random plot sampling. Assistant Area Forester Paul Kipp aided in preparation of a base sample and statistically determined the total number of plots needed to provide accurate estimates within the allowable ±5 percent range. All trees 11.1 DBH were considered for cutting. Others below that diameter could be included if they would yield a 16-foot log without defect.[24] Trees to mark for cutting were evaluated primarily under the Keen Classification System with all Class IV, IIIC, and IIID trees to be cut. A variation of Bongborg's Risk Rating System was also used to supplement Keen's system. Class IIIA and IIIB trees could be left if healthy, and Class II trees were to be cut only to obtain proper spacing.

In addition to the sample plot cruise Paul Kipp assisted in scaling timber left in the woods through the default by the Perry Brothers Company on the Alderson Gulch Logging Unit. Default on the sale allowed the Branch of Forestry to include the remaining timber on the unit in plans for a larger sale that would include those logging units outlined in the 1962 preliminary forest management plan.

In the spring of 1964, Billings Area Director James Canan wrote to the Commissioner of Indian Affairs requesting authority to pursue the sale of Northern Cheyenne timber on a negotiated basis. He reviewed the problems at Northern Cheyenne, primarily the over-mature and decadent condition of the forest and the need for employment opportunities for Tribal members. The relatively low quality of the timber and lack of adequate transportation facilities meant that income from stumpage would continue to be low. He therefore recommended that development focus upon

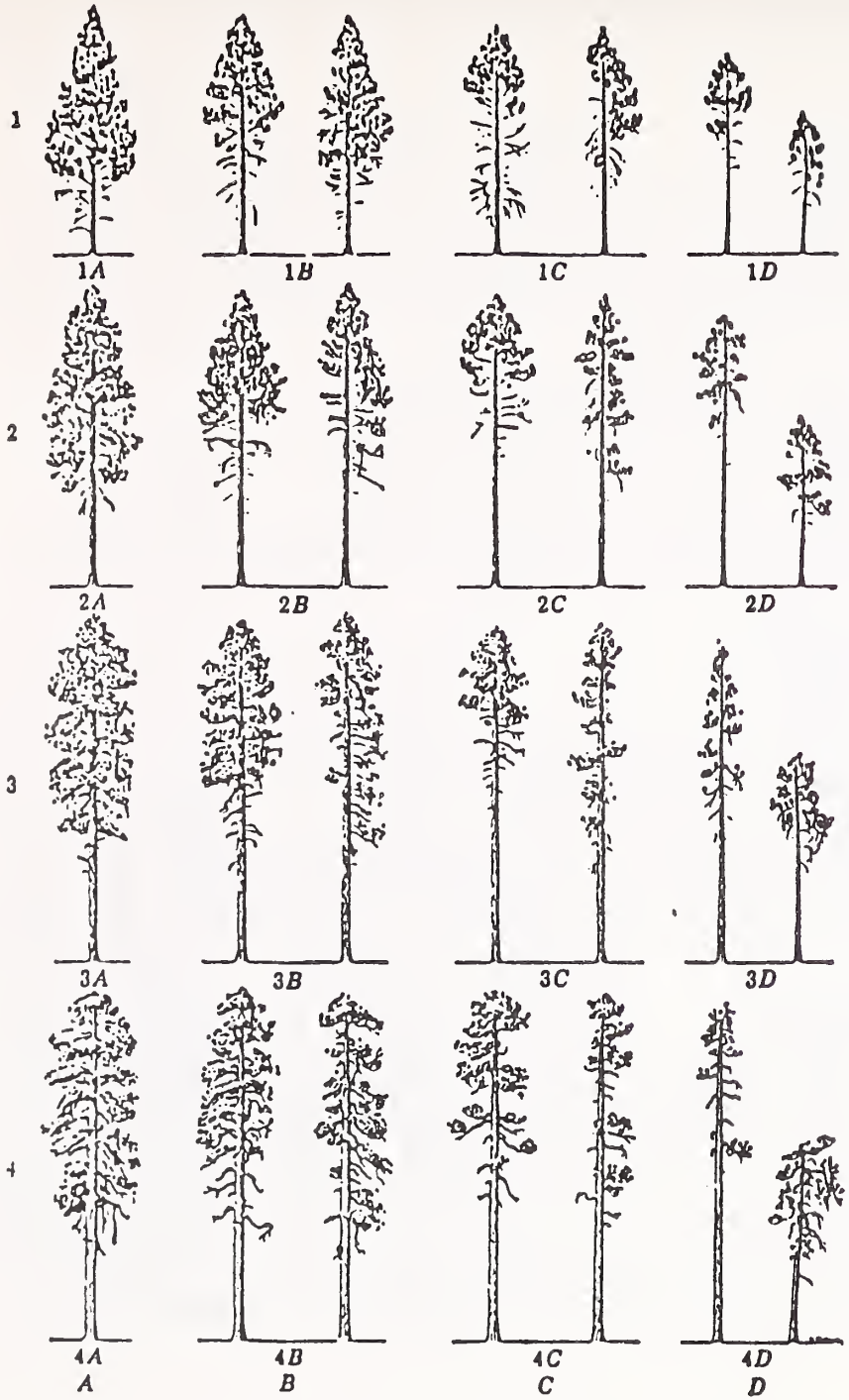
establishing an operation that would create the maximum number of jobs. The Tribe, he suggested, was willing to help finance a wood-using industry, and an Area Industrial Development Specialist was to be available for assignment on the Reservation shortly.[25]

To secure the maximum employment potential and satisfy recommendations for improving the forest from a silvicultural standpoint, Area Director Canan proposed a negotiated sale of 75 to 100 million board feet of timber. He said that the sale would be advertised in the conventional fashion. The Tribe and the Bureau of Indian Affairs, however, would require bidders to outline their plans for a mill and other items. They would then evaluate proposed developments on the basis of type of mill, employment potential, stumpage, and other factors, and would award on this basis, as well as on stumpage rates offered. The proposed negotiations would be advertised, and the Area Industrial Development Specialist would consult with prospective bidders to obtain proposals that would best benefit the Tribe.[26]

The Commissioner's office responded with a reference to the 1934 Indian Reorganization Act, Section 6 of which required the Interior Department to manage Indian forests on the basis of sustained yield. The Assistant Commissioner observed the following:

> From our personal observations, we can agree with your conclusion that some departure from the usual concept of sustained-yield management may be justified, because of the poor average vigor of the commercial-size timber. However, the situation should be documented in the form of an approved management plan. This is particularly important if there is to be any substantial departure from the usual concept of sustained-yield management. If the 1956 timber inventory is in acceptable form, it would seem that such a management plan should be forthcoming promptly.[27]

In reviewing the 1963 Annual Report of Forestry at Northern Cheyenne Indian Reservation, the Assistant Commissioner noted that a preliminary management plan had been completed for the Reservation in 1962. He said it was an unusual delay between the time the MRBI inventory was completed and the time the plan was formulated. He insisted upon a



Photograph by U. S. Forest Service.

Keen's sixteen tree classes for ponderosa pine based on age (1 to 4) and vigor (*A* to *D*).

Interior Ponderosa Pine Type

NORMAL 10-YEAR GROWTH IN DIAMETER AT BREAST HEIGHT, OUTSIDE BARK, BY TREE CLASS *

Age Class	Vigor Class *A*	*B*	*C*	*D*	Unweighted Average
	Diameter Growth, inches				
1	1.56	1.21	0.92	0.66	1.09
2	1.21	0.97	0.71	0.49	0.84
3	0.90	0.71	0.50	0.37	0.62
4	0.55	0.46	0.37	0.27	0.41
Unweighted average	1.06	0.84	0.62	0.45	0.71

* The values shown above and to the left of the line are above the unweighted average of all tree classes combined.

Source: R. H. Westveld, APPLIED SILVICULTURE IN THE UNITED STATES, 2nd ed. (New York: John Wiley & Sons, Inc., 1949), pp. 508-11.

The Characteristics of Keen's Age Groups for Ponderosa Pine

Age Classes	General Age	Age, years	D.b.h.	Height	Bark	Tops	Branches
1	Young	Usually less than 80 years	Rarely over 20 inches	In lower crown canopy; usually less than 60 per cent of total mature height	Dark grayish brown to black; rough, deeply furrowed without plates, but with narrow ridges between the fissures (sometimes coloring at extreme base)	Usually pointed, with distinct nodes	Upturned and in whorls for upper three-fourths of crown; small for diameter o bole
2	Immature	Approximately 80 to 180 years	Rarely over 30 inches	Usually less than 90 per cent of total height at maturity. Trees still under the general crown canopy	Dark reddish brown with narrow, smooth plates, between the fissures on lower half of bole; dark, rough bark on upper half	Usually pointed, sometimes rounded, but with whorls indistinct	Mostly upturned and in whorls for upper half of crown, horizontal near middle, horizontal or drooping below; small to medium for diameter of bole
3	Mature	Approximately 180 to 300 years	Rarely over 40 inches	Practically that of general crown canopy, except intermediate, suppressed or top-killed trees	Light reddish brown with moderately large plates between fissures on lower three-fourths of bole; dark bark showing in upper quarter	Usually pyramidal or rounded, occasionally pointed; whorls indistinct except at extreme tip	Upturned near top, middle crown horizontal, lower ones drooping; moderately large for size of bole
4	Overmature	More than 300 years	Wide latitude in diameters, but usually large in dominant trees	Full height of general crown canopy, except suppressed, spike-topped or broken trees	Light yellow, and uniform for entire bole, except in extreme top; plates usually very wide, long, and smooth; fissures often rather shallow	Usually flat; occasionally rounded or irregular	Large, heavy, and mostly gnarled or crooked; mostly drooping except in extreme top

The Characteristics of Keen's Crown-Vigor Classes for Ponderosa Pine

Crown-Vigor Class	General Vigor	Crown Size	Foliage	Position	D.b.h.
A	Full vigor	Full vigorous crown with a length of 55 per cent or more of the total height, and of average width or wider; with density average or better, for its age class	Needles of average length or longer, usually dense and thrifty	Usually isolated or dominant, rarely codominant	Large for age
B	Good to fair	Good to moderately vigorous crowns with length from 30 to 55 per cent of total height, if of average width and density; or a longer crown, if narrow or somewhat thin; but neither sparse nor ragged	Needles of average length, usually dense and thrifty	Usually codominant, but sometimes isolated or dominant; rarely intermediate	Average or above for age
C	Fair to poor	Fair to poor crowns, with length 10 to 30 per cent of total height, if of average width and density or long, sparse, and narrow; often flat on one or more sides	Needles often short and thinly distributed, but of normal length and density when confined to top one-third of crown	Usually intermediate, sometimes codominant or suppressed, but rarely isolated	Usually below average for age; sometimes large in decadent trees
D	Very poor	Very short, less than 10 per cent of the total height; sometimes merely a tuft at top of tree, or somewhat longer when sparse and ragged; usually very narrow or limbs all on one side	Needles often short, and foliage sparse or scattered, or only tufts at end of twigs; but of normal length and density if reduced in quantity	Usually suppressed or intermediate, but may occupy other position if greatly reduced in vigor	Decidedly subnormal for age, but very old decadent trees may be of large diameter

formally approved Forest Management Plan and suggested that the Area Director continue negotiations with personnel at the Custer National Forest so that plans could be coordinated. He withheld approval of the plan for a negotiated sale based upon the lack of an approved management plan and the uncertain outcome of a similar negotiated sale on the Mescalero Indian Reservation, the first negotiated sale ever of a substantial amount of Indian timber.*[28]

The Area Office directed copies of its correspondence with the Washington Office to the Superintendent at Northern Cheyenne. Assistant Area Director Ned Thompson also enclosed copies of an outline for preparing management plans and asked the Superintendent to have a draft plan available by August 15, 1964. The plan was to discuss the best approach to developing Northern Cheyenne timber with a view to providing maximum economic benefits to the Indian owners. Thompson asked the Superintendent to identify technical and administrative problems and recommend potential solutions. As an example, he referred to the five percent accuracy standard in preparing estimates of volumes for timber sales. Considering highly variable stands, low stumpage values, and development costs, Thompson suggested that the Superintendent might wish to recommend lower accuracy standards at Northern Cheyenne. He also advised the Superintendent to notify the Tribe of his intention to devise a management plan.[29]

1965 TIMBER MANAGEMENT PLAN

On October 28, 1964, Forest Manager W. Howard Welton submitted a draft timber management plan to the Superintendent, who forwarded a copy to the Area Office for comment. The 50-page document included a report of forest inventory, management plans, a description of economic conditions affecting Northern Cheyenne management considerations, a brief

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*After problems arose with the negotiated sale at Mescalero Indian Reservation, the Central Office was reluctant to enter into a similar situation at Northern Cheyenne. Most of those problems, however, were overcome at Northern Cheyenne through the advertised approach and tighter supervision.

history of previous forestry activities on the Reservation, a control record with maps and tables, and a bibliography and appendices. The most comprehensive report on the Northern Cheyenne forest ever, the management plan included discussion of such diverse topics as wildlife habitat, watershed, and recreational use of the forest. The Billings Area Office returned the report with minor corrections, and on January 27, 1965, Forest Manager Welton submitted a timber management plan with the approval of the Tribal Council and Superintendent John Artichoker, Jr. Ultimately, this plan was reviewed in the offices of the Billings Area Director and the Chief of the Branch of Forestry, and was approved by the Assistant Commissioner of Indian Affairs.[30]

The 1965 Timber Management Plan was a good move in the direction of intensive forest management on the Northern Cheyenne Indian Reservation. The Plan noted that past management had consisted principally of administration of small or sporadic timber sales and protection against fire. Foresters had little information to draw upon for evaluations of mortality, growth, defect, and other management concerns. Recognizing possible deficiencies from a shortage of such data, Agency Foresters established a plan for an annual allowable cut during a 120-year rotation and recommended that new data be interjected into the plan as it became available.[31]

The Plan divided the 120-year rotation cycle into four 30-year cutting cycles and established allowable annual cut volumes for an estimated 71,000 acres of commercial timberland. The following table for allowable harvest appears in the Management Plan. It represents only ponderosa pine since that was the only species of commercial importance on the Reservation.

NORTHERN CHEYENNE INDIAN RESERVATION
ALLOWABLE ANNUAL CUT

First 30-year cutting cycle	112,620	thousand board feet
Average	3,754	thousand board feet net per year
Second 30-year cutting cycle	131,010	thousand board feet net
Average	4,387	thousand board feet net per year
Third 30-year cutting cycle	149,730	thousand board feet net
Average	4,991	thousand board feet net per year
Fourth 30-year cutting cycle	149,730	thousand board feet net
Average	4,991	thousand board feet net per year

Despite the determinations of allowable annual cut using the Austrian Formula, the Plan reiterated the need to intensify timber management on the Reservation in accordance with the recommendations made by Harold Weaver. Over-mature timber had to be harvested to bring the forest to its full productive level. To accomplish that task the Plan advocated immediate action toward timber sale preparation based upon a concept of periodic sustained yield. That idea would allow for a larger harvest during one portion of a cutting cycle while reducing the cut during another period.

Justification for that approach was as follows:

> Existing local mills have proven wholly inadequate to harvest the timber at a rate sufficient to provide adequate forest management or regulation. To overcome this lack, it is proposed to immediately offer for sale a block of timber of sufficient size over a 10-year period to encourage industry to make the required investment in a plant at Lame Deer, Montana.[32]

Later in the Plan, Foresters also noted the desire to create maximum employment possibilities for the Northern Cheyenne. They estimated that 60 to 70 jobs per year could result from a 10 million board feet per year lumber operation. The Tribal Council resolution approving the Plan also

stressed that viewpoint.

A presale inventory for a proposed North Side Unit indicated that approximately 57 million board feet, gross, with an annual cut varying from 5 to 7 million board feet, gross, should be harvested within ten years. Added to that figure would be approximately 7 million board feet of timber to be readvertised from the uncut portion of the Alderson Gulch Unit which was defaulted upon in 1963. Together, the sale areas would provide 46.6 percent of the total volume of timber to be harvested in the first ten years of the initial 30-year cutting cycle, thus necessitating a reduction to an allowable annual cut of about 3 million board feet during the remaining 20 years of that first cycle.[33]

The following table from the Plan illustrates projected sales during the first 30-year cutting cycle. Net volumes were derived by using a 20 percent woods and scaling defect figure.

CUTTING BUDGET, FIRST CUTTING CYCLE*

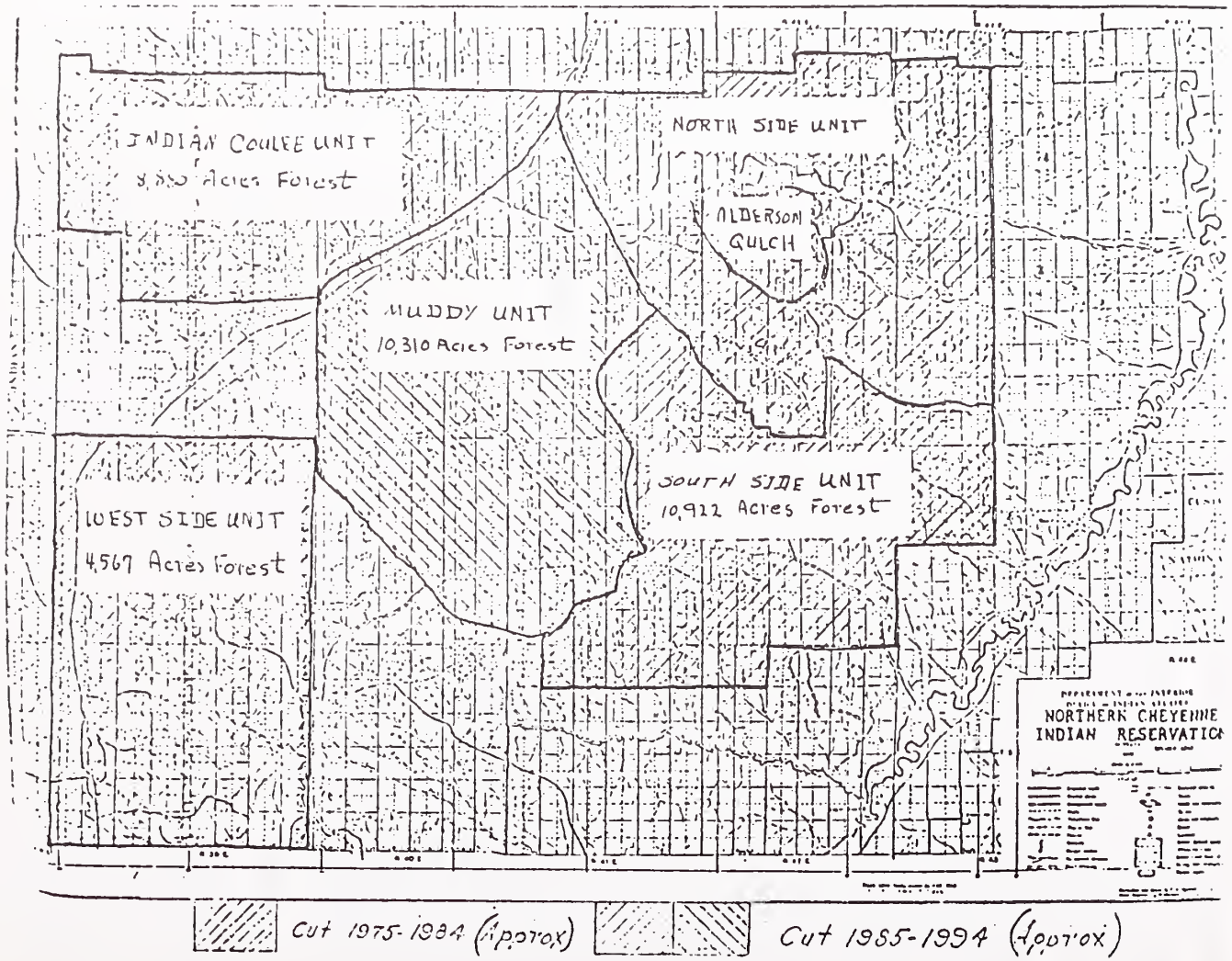
Period	*Sale*		*Approximate Net Volume Scribner*
1965-1974	North Side Unit		46 million board feet
	Alderson Gulch (Resale)		7
		Total	53 million board feet
1975-1984	South Side Unit		
	West Side Unit		
		Total	30 million board feet
1985-1994	Indian Coulee Unit		
	Muddy Unit		
		Total	30 million board feet

*The cutting budget for the last two decades of the first cutting cycle is tentative. Order of cutting may change, boundaries may be modified, or listed units may provide more than one logging unit.

A selective system of cutting under marking rules approved by the Billings Area Office in 1963 would combine with carefully monitored silvicultural prescriptions to increase the productive capacity of the forest. The Plan restated Harold Weaver's earlier suggestion for machine piling of slash whenever possible on timber sales areas to aid in thinning the over-crowded smaller trees. Forest managers were to consider planting and reseeding, but primary attention was to be given to thinning projects.[34]

The Plan suggested that additional fire protection capability might be needed when logging began. The Agency's success over the decades in preventing and suppressing fires resulted in an accumulation of fuels within the forest, and dense stands of smaller timber were susceptible to crowning fires. Logging activity would increase the danger of fire. Therefore, the Plan recommended consideration of activating another fire lookout and hiring additional seasonal fire crews. The availability of trained Northern Cheyenne firefighters reduced the risk of manpower shortages in the event of fire, and some aspects of the logging operations, notable construction of access roads, materially aided in reducing fire hazard.[35]

Grazing, recreation, and watershed also were included in the Plan. It was difficult for compilers of the Plan to estimate the exact value of watershed, but they recognized the need to maintain it as a means of using the water where it fell and to prevent erosion. Accordingly, they recommended that heavy cutting be restricted to small, isolated areas and that road construction and skidding be carefully monitored. They determined that grazing activity, then the most important commercial land-use activity on the Reservation, had little direct impact upon the forest. Intensive management, they predicted, would have a beneficial affect upon cattle and wildlife grazing by opening the forests through thinning to provide access for the animals and increase forage. At the same time, cattle might be an effective means for helping to control new reproduction that might otherwise overstock the forest. The planners viewed recreation as requiring protection of


INDIAN COULEE UNIT
8,850 Acres Forest
NORTH SIDE UNIT
ALDERSON GULCH
MUDDY UNIT
10,310 Acres Forest
SOUTH SIDE UNIT
10,912 Acres Forest
WEST SIDE UNIT
4,567 Acres Forest
NORTHERN CHEYENNE
INDIAN RESERVATIO
Cut 1975-1984 (Approx)
Cut 1985-1994 (Approx)

aesthetic values in selected areas and possible development of camping facilities.[36]

Pest control was not a major problem at the time, but the Forester Manager cautioned that increased logging activity would heighten the risk of pine beetle infestations. Again, he suggested that intensive management practices supplemented by mechanical and chemical control techniques could overcome that danger.[37]

The 1965 Timber Management Plan was the most comprehensive report of existing conditions and projected activities to that date on the Northern Cheyenne Indian Reservation. It fulfilled its purpose. It documented conditions on the Reservation as a justification for using a periodic-sustained yield harvesting plan in order to create a healthy forest and provide employment for Reservation inhabitants. The Plan possibly went further than was necessary to achieve its goal. The Commissioner's Office, from which came the original demand for the Plan, provided the following comment along with its final approval in 1967. (It should be noted that there was a change in personnel in the Central Office between the time of the initial request and 1967.)

> In establishing plans for other reservations having forestry programs of this lesser magnitude, the Operational Plan (53 IAM 3.5) would probably suffice. This would allow for technical review and approval by the Area Director, and a copy sent to this office for acknowledgment. Flathead appears to be the only reservation in your jurisdiction (Billings Area) that would require a detailed timber management plan.[38]

Whether excessive or not, the Plan laid the base for future intensive management of the Northern Cheyenne timber resource.

TIMBER RESOURCE DEVELOPMENT: 1966 FEASIBILITY STUDY

While the 1965 Northern Cheyenne Timber Management Plan was in Washington, D.C., awaiting approval by the Commissioner's Office, the Economic Development Administration, with some guidance from the Billings Area Office, negotiated a contract with Northwest Economics, Inc., of Bellevue, Washington, to conduct a feasibility study for timber

resources upon the Reservation. Generally, the report was not optimistic about the potential for marketing products from the Reservation's forests. Although of limited value, the report provided some hope through recommendations for wood-using industry outside the normal lumber-manufacture which had received so much attention on the Reservation over the years.

Declining stumpage prices nationally and generally poor quality of Northern Cheyenne timber contributed most to the study's lack of optimism for marketing the resource in southeastern Montana. The gradual introduction of plywood, particle board, and similar wood products since the early 1950's had displaced much of the demand for low grade (4 and 5 common boards) lumber, which the study estimated at 30 to 40 percent of the yield from Reservation forests. Building timber-conversion facilities to produce plywood or particle board on the Reservation was considered, but the study concluded that costs would be prohibitive, and the higher level of technical expertise required in such plants likely would preclude Tribal members from many of the jobs that might be created.[39]

The report concluded that the Tribe should investigate the possibility of investing in a non-pressure post-treating plant as a means of providing employment for local people in a wood-using industry. It recommended that the Tribe work with the BIA in promoting post and pole sales and in considering potential for expansion to a pressure treatment plant in the future.[40]

Despite the report's lack of enthusiasm for local sawmill operations, Area Forester Paul Kipp noted that the small mill at Lame Deer was "reasonably successful" in producing railroad car repair materials which were shipped to Chicago. He also questioned the consultant's calculations for cost and marketing assumptions regarding potential for a post and pole treating plant. That caution with regard to cost estimates was almost a premonition. Admittedly other factors were involved, but when Morning Star Timber Company started a post yard on the Reservation in 1969, they were out of business within a year, that failure due in part to poor estimates on the cost of producing posts from the woods.[41]

Perhaps the most significant impact of the feasibility study was the recommendation from Chief Forester Perry Skarra to revise the 1965 Management Plan to consider smaller trees (down to 6.6 inches DBH and use of the International Rule) in the annual allowable cut. That suggested reduction in the size of material to be cut may have been Skarra's additional justification for periodic sustained yield. The study also called attention to alternatives to the traditional milling approach at Northern Cheyenne.[42]

TIMBER SALES AND THE MANAGEMENT PLAN, 1964-1970

The Branch of Forestry continued preparations for offering a major timber sale on the Northern Cheyenne Indian Reservation in the 1960's. Administrative doubts about the affects of a large timber sale upon the practice of sustained-yield forestry had been overcome with formulation of the 1965 Timber Management Plan and subsequent approval by the Tribe and the Bureau of Indian Affairs' line officers. Difficult as it was to secure permission for a large sale, it would prove at least as difficult to find a contractor willing to assume the risk of establishing a new enterprise on or near the Reservation to utilize the volume and quality of timber offered.

The Branch of Forestry did establish smaller sales to support existing operations, particularly the Paul Siegfried mill at Lame Deer. In March, 1964, the BIA contracted with Siegfried for the sale of timber from Allotment Number 14, Marie Americanhorse Teeth. The allotment contained mature and over-mature trees which the allotment owner wished to sell in order to obtain the income. Siegfried obtained the contract with a bid of $6 per thousand board feet, cutting a total of 30.15 thousand board feet by the time the contract expired in December of that same year.[43]

The Forest Officer's Report for that sale included a statement of the effect that the sale would have upon the Timber Management Plan. Since the sale was outside the area considered to be commercial forest land, Forest Manager W. Howard Welton determined that there would be no

effect upon the sustained-yield objectives for the Reservation.[44] Another contract between Siegfried and the BIA in December, 1964, for the sale of timber on Logging Unit A-201 (Kenneth and Phyllis Burns LaFaver Allotment) included a similar statement. In that instance Siegfried cut 88.424 thousand board feet and paid $8.06 per thousand board feet.[45]

NORTH SIDE-ALDERSON GULCH LOGGING UNIT

After receiving no bids on an offering of the North Side Logging Unit, the BIA in 1965 advertised the combined North Side-Alderson Gulch Logging Unit for sale. They estimated a cut of approximately 52,614 thousand board feet of ponderosa pine timber for the unit. Harvesting was to be completed within 10 years. The sale included nearly 5.5 million board feet of timber to be cut from individual Indian allotments for which separate contracts would be required. The prospectus for the sale provided for quarterly adjustments in stumpage rates and minimum cutting requirements of 4.5 million board feet per year for every year after the first. Maximum allowable cut for any given year was limited to 6 million board feet, marking to be done selectively and provisions made for proper slash disposal. In addition, the prospectus informed potential buyers that preference for Indian employment would be a contract requirement.[46]

Despite efforts to promote the sale of timber with West-wide advertisements, the BIA received no bids on the unit in 1965. The Agency met with the same lack of success when it readvertised the unit in 1966. The BIA attributed the lack of bids to poor lumber market conditions prevailing at the time.

In the summer of 1966 two smaller mill operators expressed interest in the North Side Unit. H. N. Black, owner of a mill operating in the Sarpy Mountain area, and Merle Driggs, part-owner of a milling operation at Lewistown, Montana, both had small operations, each cutting less than 1 million board feet of timber annually at their previous locations. Neither could satisfy the BIA's hopes for a harvest of 10 to 12 million board feet annually from Northern Cheyenne and the neighboring Custer

National Forest. Black estimated that he could increase production to 2 million board feet per year in a relatively short period of time and reach a 4 million board feet annual production capacity within two years after that. Area Forester Paul Kipp estimated that Merle Driggs would have similar problems in time and financial requirements to increase production to 4-5 million board feet per year.[47]

Area Forester Paul Kipp determined that the North Side-Alderson Gulch Unit might be too large for either of the two interested parties to manage. Rather than lose their interest through insistence upon the larger, combined unit, the Area Forester recommended that the Agency consider separating the Alderson Gulch Unit from the larger North Side sale and offer Alderson Gulch timber on the market.[48]

The Branch of Forestry advertised remaining volume on the Alderson Gulch Unit (Resale) separately in 1966 but received no bids. Afterwards, the Area Forester visited with the owner of the Black Lumber Company and convinced him to make an offer at the minimum advertised rates. Black moved his mill to Lame Deer and contracted to cut the estimated 7.08 million board feet of timber. That estimate was reduced to 4,534 thousand board feet in 1970 by removal of part of the area from the sale. The contract underwent several modifications and stumpage rate adjustments based on market trends from $2.50 per thousand board feet in 1966 to $10.34 per thousand board feet in 1968. After several extensions and modifications, the sale was completed when the BIA issued a statement of completion in March, 1978.[49]

By the late 1960's the forestry program at Northern Cheyenne could best be described as stable. With the sale of Alderson Gulch (Resale) Logging Unit to H. N. Black and smaller sales to Paul Siegfried, at least a limited amount of harvest was accomplished. Apparently Siegfried did close operations for a couple of years between 1965 and 1968. He purchased some private timber, but closed completely in the early 1970's. Black's mill employed an average of eight local Indian people, and Siegfried employed an additional two to three men when he set up new mill equipment in 1967 or 1968. Ashland Lumber Company experimented

that latter year with a post treating plant and employed two local Indian people to operate the post plant for four months. R. C. Brown, the new Forest Manager at Northern Cheyenne, aptly described the timber management program at the Agency when he said it ". . .continued a steady unspectacular gain through 1967."[50]

H. N. Black increased harvesting activity when he obtained the bid for the St. John's Creek Fire Salvage Unit in 1967. A fire had occurred on St. John's Creek on July 20, 1966. It burned 436 acres of grassland and 268 acres of timber before Agency crews were able to contain it. The fire danger rating for the day had reached "extreme," and the fire burned intensely in the timbered area. Forestry personnel estimated that nearly 60 percent of the merchantable timber in the burn area had been killed. Foresters immediately marked the salvageable timber and began preparation of a Forest Officer's Report for a salvage timber sale. On July 6, 1967, after receiving Tribal approval, the BIA advertised the St. John's Creek Logging Unit with an estimate of 325.478 thousand board feet to be cut and a minimum acceptable bid of $2.50 per thousand board feet. H. N. Black obtained the unit for the minimum price and completed harvesting and other sale requirements by September, 1968.[51]

An upward trend in the lumber market in the 1967 to early-1969 period gave impetus to renewed interest in other timber sales, especially the North Side No. 2 Logging Unit, which previously had been separated from the Alderson Gulch Unit. Tribal Resolution No. 59(69) authorized advertisement, and Agency Foresters recommended a minimum acceptable bid rate of $13.10 per thousand board feet, based on the timber value appraisal for this proposed unit. R. C. Brown, Forest Manager at Northern Cheyenne, estimated total unit value at approximately $640,000.[52]

The sale generated considerable interest when it was advertised in the spring of 1969. Sycon Forest Products tentatively agreed to buy the Ashland Lumber Company operation, dependent upon the sale of the North Side Unit. It ran the mill on a temporary basis, cutting 10 thousand board feet per day from the Custer National Forest and employing 14 Indian workers. If successful in obtaining the contract for the

North Side Unit, the company expressed the intention to expand the Ashland operation to employ 35 to 40 Indian people from the Northern Cheyenne Indian Reservation. Other companies, including Wyoming Sawmills, Inc., and Missoula White Pine and Sash Co., sent representatives to the Reservation to examine the advertised timber.[53]

Ashland Lumber Company submitted the only bid and was awarded the contract for North Side No. 2 Logging Unit. Prospects for a stable wood-using industry looked good, but they were not to last. Three of the most potent enemies of the wood products industry, fire, markets, and finances, were to combine to ruin the Ashland Lumber Company enterprise.

After producing through the poor market period of mid-1969 to mid-1971, the company's sawmill at Ashland, Montana, burned early in the summer of 1972, and they missed most of a good market period. They built a new mill, but it was not operable until December, 1974, and the lumber market had begun its worst period since World War II. In the interim, the company continued intermittent logging on the North Side No. 2 Logging Unit to build an inventory of logs. They could not meet annual cutting requirements, however, and the Tribe recommended relief from those contract requirements in 1972 and 1973. In 1974, after cutting one-third of the estimated 45 million board feet on the contract and using half of the 10-year time for completion granted in that contract, Ashland Lumber Company was in major financial difficulty and was trying to sell the entire corporation.[54]

Keith Beartusk, then Forest Manager at Northern Cheyenne Agency, expressed concern that the Tribe had been deprived of income through the company's inability to meet the minimum annual harvesting requirements. He asked the Solicitor's Office in Billings for an opinion as to whether or not the Ashland Lumber Company could be considered in default and whether an assignment would be required for any firm purchasing the entire corporation.[55]

By the fall of 1975, the Ashland Lumber Company was nearly bankrupt and offerings its Ashland sawmill for sale at what Branch of Forestry

officials called a "very reasonable figure." In addition, the Custer National Forest and the BIA at Crow Agency had advertised several smaller timber sales without receiving bids. Northern Cheyenne Foresters hoped that a financially stable company might be able to buy the Ashland operation with assurances of timber being offered for sale from the Custer National Forest and the Crow Indian Reservation to supplement a large sale from Northern Cheyenne. Indeed, several larger corporations did seriously look at that prospect. Included among them were Wickes Corporation, Louisiana Pacific, Andersonia Forest Products, and the Arness and Anderson Corporation.[56] (The last two involved some of the same principals.)

All of the interested corporations sought guarantees of timber from Northern Cheyenne for at least a 10-year period and at initial stumpage rates to be established early in the negotiation stage and changed throughout the course of the contract according to market fluctuations but not be subject to the revaluation clause of BIA's standard contract format. The BIA expended considerable efforts in negotiating with the several interested parties, negotiations with Wickes lasting to April of 1976 before they broke off and similar negotiations with Louisiana Pacific lasting from late April to October of that same year.[57]

The BIA recognized the need for a periodic sustained-yield approach at Northern Cheyenne as outlined in the Timber Management Plan and worked closely with the Tribe in securing a viable timber harvesting and manufacturing enterprise on or near the Reservation. BIA Foresters explained the concept of periodic sustained yield, both benefits and liabilities, to the Tribe. The Tribal Council in turn passed Resolution No. 293(76), which approved an accelerated cut for a 10- to 15-year period, to be followed by a period with little or no timber harvest. In Washington, D.C., the Commissioner of Indian Affairs also cooperated with the plan by granting exceptions to Sections 7, 9, 12, 14, and 15 of 25 CFR Part 141. Although waived specifically for a negotiation with Louisiana-Pacific, it was ruled that they would apply to any other firm with whom the Tribe might contract to harvest Northern Cheyenne timber

on a long-term basis.[58]

These efforts were rewarded in 1977 when the Tribe signed a "Timber Harvest Agreement" with Arness-Anderson Corporation, which was approved by the Area Director. Included in the Agreement was the assignment of the North Side No. 2 Logging Unit. Arness-Anderson accepted a BIA appraisal of the Unit and the $15 per thousand board feet rate for initial cutting under the contract. Reappraisal provisions were deleted from the general provisions, but the standard quarter-annual stumpage adjustment provisions were retained and were based upon changes in the W.W.P.A. Douglas Fir-Larch Index since the fourth quarter of 1976.* More than half of the 100 million board feet to be cut under provisions of the 10-year Agreement were to be harvested from the North Side No. 2 Logging Unit. The rest would be sold to Arness-Anderson from logging units to be prepared for other areas of the Reservation.[59]

Much of the information for devising the Agreement with Arness-Anderson was newly acquired. As recommended in the Timber Management Plan, the BIA conducted a new inventory between 1973 to 1975. The Agency secured timber type maps in 1973 from color aerial photos and supplementary black-and-white aerial photographs from Raytheon, Inc., under contract. A CFI System was then established. The end result was a more accurate assessment of total forest acreage, timber volumes, and individual timber types.[60]

In 1974 and 1975 the Branch of Forestry established the "Continuous Forest Inventory" for the Reservation forest. The Forestry staff selected 714 quarter-acre plots upon which they measured the trees for growth, height, diameter, form class, defect, and other miscellaneous information. The purpose of the inventory would be to secure current volume data and then to visit those same plots in ten years and take the same measurements so that an accurate evaluation of volume growth

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*The Douglas Fir-Larch Index was part of the North Side contract since Ashland Lumber Company's operation was based upon dimension lumber production--unusual in sales involving ponderosa pine.

and mortality and harvest might be made. This process was particularly important for future forest management planning as it would enable Foresters to update volume estimates and establish growth, defect, and mortality trends.[61] As a result of the inventory, the Northern Cheyenne Agency estimated a total of 383,174 thousand board feet (gross) of timber on the Reservation. Defect, as determined from an average of scaling on then recent timber sales, was estimated at 13 percent.[62]

Silvicultural prescriptions for dealing with the forest adhered to the recommendations outlined in the Forest Management Plan. The basic objective was to harvest "high risk, damaged, diseased, suppressed and over-mature trees."[63] Again, Agency Foresters would make every effort to optimize growing space for the trees to be left. Arness-Anderson insisted on one provision which BIA and the Tribe did not like but accepted. Whereas sales in the previous few years on the Reservation established a 9 inch DBH as a minimum diameter for cutting, Arness-Anderson refused to accept anything lower than 12 inches DBH as a minimum. The BIA and the Tribe did not wish to jeopardize the entire sale on that point. They accepted the demand.[64]

By the end of fiscal year 1979, the value of the Agreement was already becoming apparent as Arness-Anderson had logged 9,133.32 thousand board feet of timber from the Northern Cheyenne Reservation, providing $437,272.79 in gross stumpage payments and establishing 110 jobs, one-half or more filled by members of the Northern Cheyenne Tribe. (Another 5 million board feet worth $250,000 was harvested in the first four months of fiscal year 1980.)

By the end of 1978, then, the BIA had accomplished goals that had been established decades earlier. They had an adequate Timber Management Plan to address the requirements of sustained-yield forest management on the Reservation and the first significant long-term timber harvest agreement that could enable them to implement that Plan. Prospects for bringing the Northern Cheyenne forest to a healthy, productive state looked better than they had at any time since the very beginning of BIA forest management on the Reservation.

The Northern Cheyenne Tribe and the BIA did not stumble upon success in obtaining a much-needed harvesting program for the Reservation. It was the result of extended negotiations, of trial and error. One of the most influential elements in the whole process was the condition of the lumber markets. Particularly for the lower quality of ponderosa pine predominant in the Northern Cheyenne forest, lumber markets from 1956 to mid-1971 were frustrating. Said Area Forester Kipp, "High market periods occurred, but they were brief--like 12-18 months. Lower market periods seemed to be twice as long."[65] Those markets influenced the Tongue River Lumber Company in its decision to leave the Reservation after its mill burned. Markets also contributed to the Perry Brothers' default on their timber contract. Failure to receive bids on the two offerings of the North Side Unit also were tied to unstable market conditions.[66]

In the 1970's prospects for the lumber industry generally improved. Good markets prevailed from 1971 to early in 1974, encouraging Ashland Lumber Company in refinancing and rebuilding after the fire at its mill. The market deteriorated just as Ashland resumed operations, and the company met financial ruin. The lumber market improved again from 1976 to mid-1979, offering encouraging prospects for Arness-Anderson. By 1980, however, the fickle market had turned the other way, presenting a challenge to Arness-Anderson's business skills. Throughout the period from 1956 to 1980, then, lumber markets contributed significantly to success or failure in timber sales and timber management at Northern Cheyenne.[67] They will continue to play a prominent role in the future.

Almost as vital as the sale of Northern Cheyenne timber under contract was the Forest Development Plan. Given some impetus from the public works projects of the Depression years, the Development Program began again in earnest in the early 1960's with student summer work programs and the short-lived Accelerated Public Works Program. Harold Weaver's report at that time strengthened the justifications for thinning efforts and gave at least partial direction to the Timber Management Plan that was to follow. Still, one of the most important aspects

of forest development has been the incentive it has provided for Tribal participation in the Northern Cheyenne forestry program. Forest development activities have focused on forest management and the long-term goal of establishing a healthy forest. Forest development has provided many young members of the Tribe with practical insights into how a forest grows and how it must be managed. And these young people are the future leaders of the Northern Cheyenne people, the future managers of the timber resource.

CHAPTER VII

THE TRIBE AND BIA: A GROWING PARTNERSHIP

TRIBAL PARTICIPATION IN FORESTRY

The Tribe has had very basic reasons for increasing its interest and participation in the Reservation forestry program: employment, money, and use and management of natural resources. The shortage of those first two items has been acute at Northern Cheyenne through most of the Reservation's existence. Timber, during much of that time, was viewed as a possible means to create jobs and income from either stumpage or sale of manufactured wood products. Relatively low quality of timber and lack of accessibility to markets, however, hindered the BIA and the Tribe in their efforts to procure stable wood-using industries on the Reservation or to contract stumpage to firms that might process the timber off the Reservation. The Arness-Anderson Agreement to purchase Northern Cheyenne timber over a long period of time ended the basic problem of securing a long-term market. The BIA and the Tribe attacked the quality problem through another long-range problem, that of forest development. Since Arness-Anderson modified the mill purchased from Ashland, it had more capacity than the commitment of timber volume from Northern Cheyenne would fill. So the goal of securing considerable employment from processing off-Reservation timber as well as Northern Cheyenne timber seems on the verge of being met.

Initial efforts with thinning programs in the 1960's were successful and provided encouragement for continued forest development on the Reservation. In 1970 the BIA issued a $4500 purchase order to the Northern Cheyenne Tribe under which the Tribe would establish a Forest Development Project to employ Tribal members in thinning on the Alderson Gulch Logging Unit in an area cut-over in 1957 and 1958. The project

was an extension of the APW work of the early 1960's. Both the BIA and the Tribe hoped to continue and expand the Forest Development Project with additional appropriations from each of their budgets and from Federal grants or subsidies. The BIA retained authority for project approval and provided technical supervision to the Indian crews. Crew members, however, worked for the Tribe and under the direct supervision of a Tribal foreman or squad boss.[1]

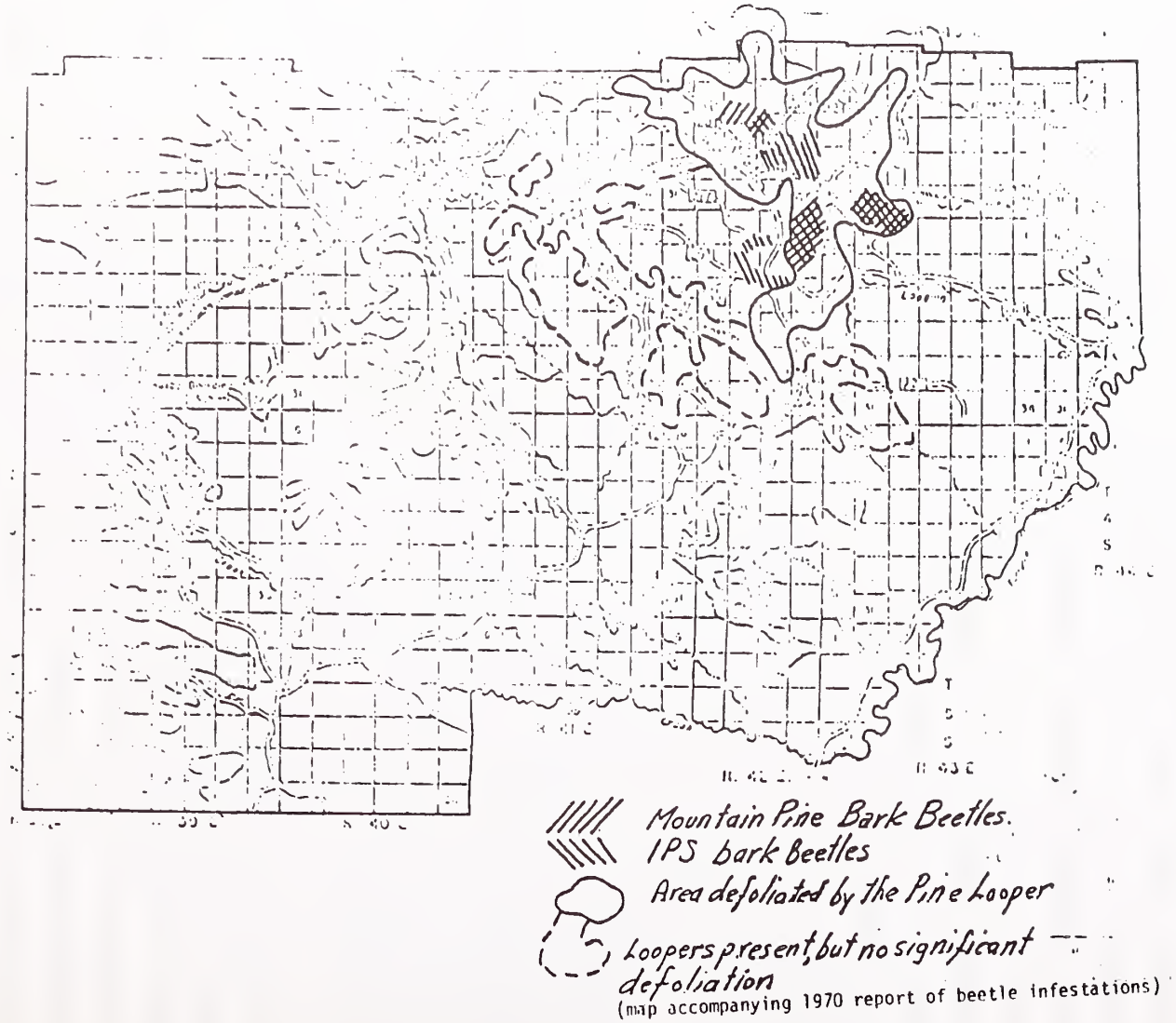
After some initial supervisory and associated production problems, the Tribe was able to improve performance with crews of 10 to 15 people. They confined thinning to areas classified as "dog hair" stands due to the density of such stands. The Economic Development Administration provided additional funds to maintain Indian crews under the Public Works Impact Program (PWIP). In 1972 the EDA grant to the Tribe was for $365,000, almost half of that amount going to the Forest Development Program for thinning projects. In 1974 the Tribe received another grant from the same agency for almost $200,000, which generated approximately $100,000 for the thinning program. The Tribe used the PWIP money to employ 20 to 25 individuals in forest development and to acquire three vehicles and 35 chainsaws for their program.[2] Under that program the Northern Cheyenne Tribe, in cooperation with the Branch of Forestry, thinned nearly 1,750 acres of severely overstocked timber stands.

The separate Tribal Forest Development Project during the same time employed 10 to 15 men and thinned 700 acres with BIA and Tribal funds. The BIA directed much of this crew's effort toward eradication of bark beetle and a pilot transplanting project under contract. The beetle work was part of a continuing struggle at Northern Cheyenne to keep pine bark beetles in check, particularly *Dendroctonus ponderosae*, and also *Ips pini*, *Ips calligraphus*, and *Dendroctonus valens* species. In 1971 the beetle population had grown to epidemic proportions on the Reservation following a brief but damaging epidemic of pine looper moths which defoliated the majority of trees on about 900 acres of timberlands. Natural enemies contained the spread of the pine looper, but the trees they damaged became hosts to the pine bark beetles. Other damaged trees

from a large windfall in the spring of 1967 and from logging operations on the Reservation provided breeding ground for the insects.[3]

Agency Foresters marked infested trees, and thinning crews cut and removed them. Where the infestations occurred on timber sale areas, the Ashland Lumber Company cooperated in cutting the infested trees that were marked by Agency Foresters. The Branch of Forestry operations at Northern Cheyenne Agency received an allocation from U.S.D.A. pest control funds of nearly $25,000 per year to eradicate the beetles. With that money the Agency identified, located, felled, and sprayed infested trees until 1976, when officials determined that the program had achieved its goal. The beetle populations were reduced from epidemic to endemic levels. To guard against further outbreaks, the BIA established a monitoring system to analyze insect population trends.[4]

Congress provided continuity for the Forest Development Program in late 1976 (fiscal year 1977) when it provided $94,000 for projects at Northern Cheyenne. The sum was part of a much larger funding package approved for forest development on Indian reservations throughout the United States. Since the money was in addition to the funding levels that O.M.B. permitted BIA's Branch of Forestry to request, it was termed "Congressional add-on" funds. It also was "unbanded" in that it could be used only for forest development work. The Commissioner's Office allotted approximately $660,000 for projects under the Billings Area Office jurisdiction, and Congress made tentative commitments that it would provide the funding for about 10 years to enable the BIA to eliminate the backlog of forest development work on Indian reservations. Northern Cheyenne Agency received a large proportion of the Billings Area appropriation because it was second only to the Flathead Indian Reservation in extent of commercial timberlands.[5] Although thinning received most attention in the Forest Development Program, other projects included cone collection, transplanting, slash trampling, and site preparation. Some reforestation was also planned. In all projects the BIA employed Indian labor or contracted with Indian-owned companies. In addition to improving the productive capacity of the forest, then, the program aided



(map accompanying 1970 report of beetle infestations)

materially in mitigating the unemployment problem on the Northern Cheyenne Indian Reservation and in generating increased Tribal interest in forestry.

FIRE PROTECTION AND CONTROL

Fire protection and control were primary functions within the BIA forestry program on the Reservation from the outset of Government trust responsibility. The more successful the BIA was in preventing and reducing the average size of fires on the Northern Cheyenne Indian Reservation, the harder and more important became their task of prevention and control. The nearly ideal conditions for tree reproduction on much of the forest resulted in dense reproduction, which increases the chance of a hotter, more damaging fire when one occurs in such areas. Before man began fire control efforts, fire periodically thinned the forests and consumed fuel, killing the smallest trees and only minimally scarring or damaging the larger growth. Thinning projects, then, have become an essential element of forest management. They are necessary to offset success in eliminating fire from the forest.[6]

Branch of Forestry fire protection extends to 445,300 acres of land on the Reservation. Heavily stocked ponderosa pine forests cover approximately 110,000 of those acres, and 60,000 acres include scattered pine and brush lands. The rest is a combination of grassland (261,700 acres) and farmland (13,600 acres). Since the 1930's the BIA has maintained annual fire plans for the Reservation in order to insure maximum protection. In 1972, a system using a "Normal Fire Year Plan" was adopted throughout the Billings Area. This was a complex approach to defining fire season peaks, fire load during those periods, and establishing manpower, etc., needed to mount initial attacks on fires occurring during peak periods.[7]

The Normal Fire Year Plans (NFYP) assess Reservation needs for fire protection and suggest means of fulfilling those needs. Those plans discuss special problems such as fuel buildup, access, and detection. They identify equipment on hand, as well as available manpower. In all

instances they relate available actual fire prevention and suppression resources to those required. With the NYFP, Agency Foresters are able to project and budget costs for the program. Since the Agency provides all initial attack, overhead, and suppression crews, the plan also outlines training programs to prepare employees for those roles.[8]

Northern Cheyenne has 50-75 fires each year, but even with the best of preparation, major losses from fire are reduced but not eliminated. That became evident at Northern Cheyenne Indian Reservation on a hot summer day in 1976 when the Agency Fire Control Officer received a call from an employee on the Custer National Forest, where three towers reported a fire in the vicinity of Pawnee Creek on the Reservation. The Agency had pumper units on the two-acre blaze within 25 minutes. The Tribal Forest Development Crew assisted them. The fire burned in thinning slash and "jackpines" or "blackjack pines" spaced about two feet apart. The temperature was 90 degrees Farenheit, and winds blew from the east at 10 miles per hour. Humidity was only 18 percent. It was an ideal day for fire.[9]

The fire call had arrived at 9:20 a.m. By 11:30 the fire had grown to 100 acres, with spot fires as much as a quarter of a mile from the main fire. The Fire Control Officer called for an air drop of fire retardant and heavy machinery to assist in constructing fire lines. Crow's Forest Manager, Gardner Ferry, arrived from Crow Agency to help in the control effort. He requested additional manpower, which arrived in the form of an overhead crew from the Flathead Indian Reservation and "I.R." crews. Repeated fire retardant drops on the 23rd helped check the fire while the heavy equipment operators ran lines around the head of the burn. The fire crews contained the fire by 11:00 on the morning of the 23rd and declared it controlled by 6:00 that evening, after help from a rainstorm. Agency crews "mopped-up" for two days after it was controlled.[10]

Two hundred twenty people participated in suppressing the Pawnee Creek Fire. The cost was estimated to be $143,619.19. In addition to the suppression cost, the fire damaged an estimated $67,750 worth of lumber.[11] In 1978 Arness-Anderson contracted to log the merchantable

timber from the area, reducing the loss to the Tribe.

The Pawnee Fire emphasized the need for continued planning efforts. Without the system of Federal cooperation and the rapid Agency response, the fire would have increased in proportions and associated suppression costs. The severity of the fire re-emphasized the need for continued thinning and a search for ways to eliminate thinning and logging slash. Harold Weaver had warned against the hazard from slash when he first evaluated thinning programs in the early 1960's. It was, and remains, a serious threat. The BIA today on Northern Cheyenne is investigating several ways to solve that problem.

Since the early 1960's, the Branch of Forestry has been instrumental in helping train and dispatch 2 to 6 organized line crews to USFS, BLM, NPS, and State fires through much of the West. In addition to generating several man-years of employment from off-Reservation fires each year, this has provided the Agency with a constant nucleus of trained fire fighters.

PRESENT AND FUTURE

The forestry program at Northern Cheyenne Agency has evolved a long way from the days when the Agency "Farmer" issued permits to cut timber, managed logging, and supervised fire control efforts. Today the BIA's Branch Forestry maintains employment for a Forest Manager, four Foresters, five Forestry Technicians, several forest laborers, a clerk, and a 10-15 man summer fire crew. Additional administrative or technical advice is available from the Billings Area Office or the Branch of Forestry office in Washington, D.C., for particularly difficult or pressing needs.

The Tribe, too, has increased its interest and active role in forestry on the Reservation. Since passage of the Indian Reorganization Act in 1934, the Tribe has exercised approval authority over annual timber cutting permit policies and any Tribal timber sale contracts administered through the BIA. It employs a Forest Development Technician and a 10-12 man forest development crew. In addition, as many as 50 to

100 Tribal members find employment at the sawmill in Ashland, where the Arness-Anderson Agreement for cutting Reservation timber requires that the firm hire Tribal members for at least 60 percent of its positions, an arrangement that the firm has made every effort to uphold.

Never in the history of BIA forest management on the Northern Cheyenne Indian Reservation have prospects for the program looked so good. With the adoption of sustained-yield practices as mandated in the Indian Reorganization Act and formalized in the 1965 Timber Management Plan, the BIA took enormous strides toward fulfilling its trust responsibility of managing Northern Cheyenne forests to obtain the best possible return for the Indian owners. Only in recent years, however, have circumstances allowed the BIA to implement that plan with any success. Two areas of particular importance would be the Arness-Anderson Agreement to harvest the mature and over-mature portions of the forest and the strong financial commitment of Congress with regard to forest development on Indian reservations.

Today, thanks largely to cooperative efforts between the BIA Branch of Forestry and the Northern Cheyenne Tribe, the timber resource on that reservation is the largest single source of income to the Tribe and its members. In fiscal year 1979 the stumpage payments from the Arness-Anderson Agreement reached $338,349.28. Those payments should increase with the company's move to accelerate cut to compensate for a shortfall in meeting their cutting requirements in 1978 and 1979 while the firm upgraded the sawmill in Ashland. Additional income to the Tribe and its members comes from forest development contracts with the BIA and jobs at the Ashland sawmill.

Another optimistic note for the forestry program is the renewed possibility of a railroad spur running along Tongue River to the coal fields in that vicinity. Distance from rail facilities had long made Northern Cheyenne timber non-competitive due to transportation costs in order to reach the marketplace. Although not assured, recent developments in the area of energy markets and demands have given credence to the possibility of a railroad into the region. At least one firm,

MONTCO, has specific plans to construct a spur to coal fields along Tongue River.

Still, many ingredients in the development of the Northern Cheyenne Indian Reservation timber program cannot be foretold. The lumber industry remains highly susceptible to fluctuations in the economy and associated housing trends which may affect Arness-Anderson operations. Fire, insects, and disease remain potent variables. In all of these areas, however, the BIA stands better prepared to act than at any previous time. The high level of management planning as evidenced in the Timber Management Plan and the Normal Fire Year Plan give the BIA a base from which to attack specific problems as they arise and a means for preventing many of them from happening in the first place.

The added depth of intensive forest management now practiced by the BIA on the Reservation has positive results on other resources too. Foresters consider wildlife, watershed, recreation, and aesthetics, among other things, in their review process and remove or minimize harmful effects that otherwise might occur in the course of forest development or timber harvesting. That multiple resource and intensive approach to management is all the more important when one considers that the Northern Cheyenne Indian Reservation is more than a repository of natural resources. It is home for the Northern Cheyenne people, who own those resources and whose daily lives are influenced by them. And it is with these people and their Council that the BIA, through its Branch of Forestry, administers the United States' trust responsibility to Northern Cheyenne timberlands.

PHOTO SECTION

All photos in this section are copied from ANNUAL FORESTRY REPORTS or ANNUAL EXTENSION REPORTS for the Northern Cheyenne Indian Reservation. Photos courtesy of the Seattle Federal Archives and Records Center.

Sawmill five miles from Agency in 1915.

1915 photo showing typical Indian housing conditions on left and remodeling on house to right, using lumber and shingles from Agency sawmill.

This steam tractor is breaking sod on the Reser. tion in 1918 in preparation for planting fall wheat. It, or another similar tractor, later was used to power the portable sawmill near Busby.

In the photo at left, an Indian crew prepares to fell Ponderosa pine during 1932 logging operations on the Reservation.

1932 logging, using horses to skid to the landing deck.

A deck of logs awaiting the portable sawmill.

Brush, stumps, and residual stand after Indian logging.
Report indicated not all brush piled as well.

1932 portable sawmill set showing mill, tractor, and log deck.

A choice pine log on the sawmill carriage.

Sawmill setting almost complete, showing lumber piles and sawyers quarters in wagon in background.

Busby sawmill setting at Indian Coulee in 1935

Portable sawmill powered by tractor.

Close-up view of the saw and carriage.

Busby sawmill setting at Indian Coulee in 1935 (continued)

Pushing sawed lumber to individual piles. Lumber was used primarily in Indian housing.

Family camps near the Busby sawmill setting at Indian Coulee.

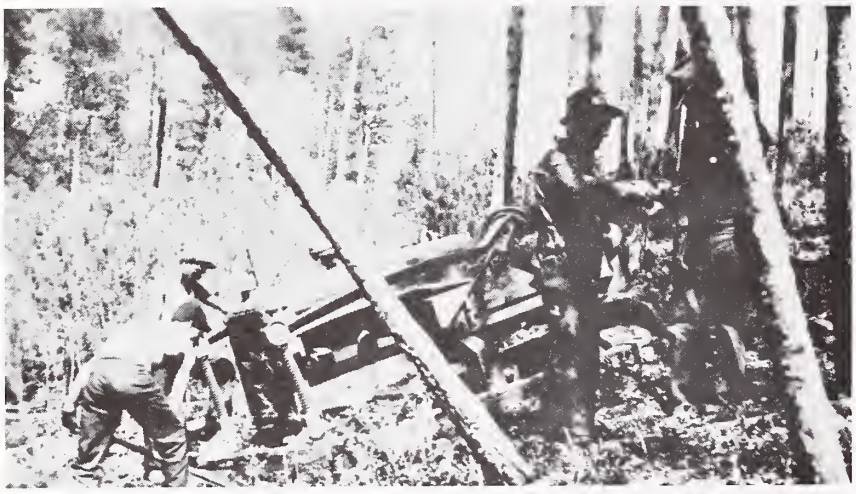
Wind-thrown timber, 1936-1937

General view of a portion of the Northern Cheyenne forest before wind storm of July 11, 1936.

View of devastation from 1936 wind storm.

Caterpillar tractor replaces horses in skidding logs salvaged from wind-thrown trees.

1937 salvage of wind-thrown timber



Caterpillar tractor used to log downed timber.

Decking the wind-thrown timber.

Another view of the log decks, 1937.

Civilian Conservation Corps-Indian Division (CCC-ID), 1939

Tribal timberlands cut over by the CCC-ID in the winter of 1938-1939. Section 27, T2S, R42E. All overmature trees cut and removed after being marked by the Forest Officer.

CCC-ID crew skidding bridge timber with caterpillar tractor.

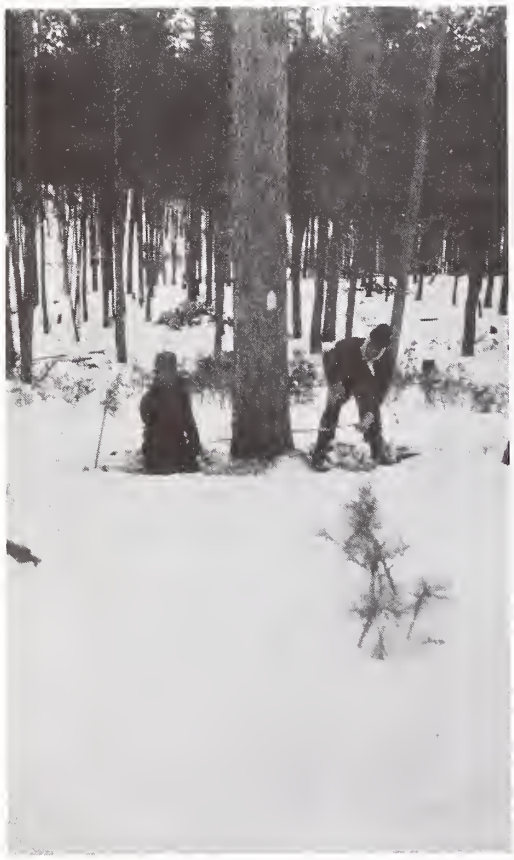
CCC-ID crew operates shingle machine at Tongue River (Northern Cheyenne) Agency sawmill. Shingles were cut from Western Yellow pine shingle bolts (small blocks) cut at the sawmill.

Another view of shingle operation.

1940-1941 Indian logging at Northern Cheyenne

Forest Officer marking trees to be cut. Below is view of stand marked for cutting under timber permits.

1940-1941 Indian logging



Indian crew felling marked trees at left, and posing next to examples of good utilization below. Note the low stumps.

1940-1941 Indian logging

Indian crew bucking logs as horses stand by to skid logs from the forest.

In this winter scene a crawler type tractor skids logs in sub-zero weather.

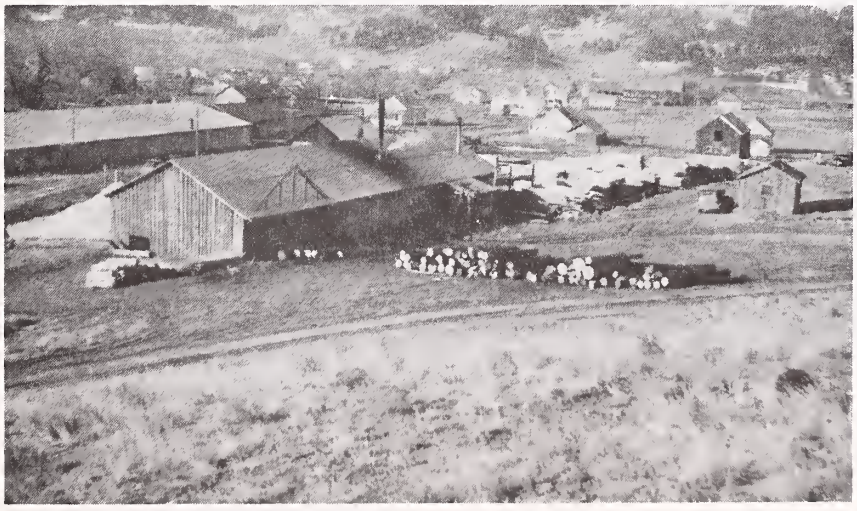
1940-1941 Indian logging

Indian operator skidding log with crawler-type tractor on Government IR&R project.

Low stump height and proper brush disposal on Indian cutting under supervision of Forest Officer in 1940.

Indian logs decked for sawing at portable sawmill in Section 30, T2S, R43E.

Studebaker 2 1/2-ton truck hauls logs from woods to Agency sawmill on Government IR&R project.



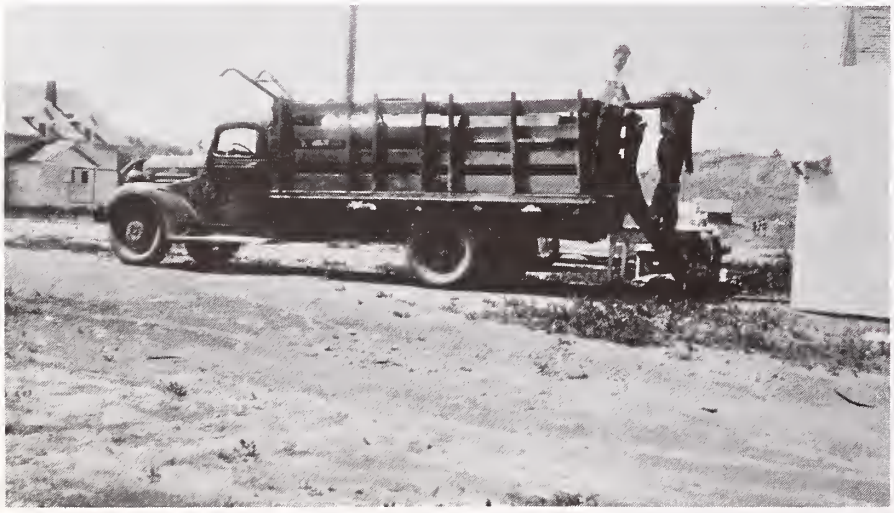
Agency sawmill at Lame Deer in 1940.

The Agency sawmill, shown above in 1939, produced much of the lumber used in housing rehabilitation and new construction programs. The house below was built with lumber from the mill in 1939.

The two fire tool caches above were constructed by CCC-ID crews. At left a Tribal member operates a portable radio secured from the CCC-ID for use in fire suppression efforts in 1941.

CCC-ID crews constructed the Bull Creek Lookout Tower in 1934.

Below, the CCC-ID program loaned a fire truck to the Forestry Division in 1940-1941. The truck carried a 300-gallon water tank, a walking plow, and a 25-man fire tool outfit.



Forestry lookouts and cabins, 1939-1940

Black Springs
Lookout living
quarters.

Badger Peak
Lookout cabin.

Bull Creek
Lookout cabin.

The Lost Leg lookout tower and living quarters constructed by the Branch of Forestry in 1931. Other lookouts were built at Bull Creek, Black Spring and Badger Peak. CCC-ID crews worked on most of these towers during the late 1930's.

Above is a view of the Livingston sawmill operating on the Soldier Gulch Logging Unit in 1945. (This photo was copied from an album located at the Billings Area Office Branch of Forestry.)

FOOTNOTES

CHAPTER I

PRELUDE TO RESERVATION

[1]Verne Dusenberry, "The Development of Montana's Indians," in Merrill Burlingame and K. Ross Tolle, A HISTORY OF MONTANA, Vol. 1 (New York: Lewis Historical Publishing Company, Inc., 1957), pp. 157-90.

[2]Tom Weist, A HISTORY OF THE CHEYENNE PEOPLE (Billings, Montana: Montana Council for Indian Education, 1977), p. 48.

[3]Ibid., p. 48; Dusenberry, "The Development of Montana's Indians," p. 26.

[4]Weist, A HISTORY OF THE CHEYENNE PEOPLE, p. 48.

[5]Ibid., pp. 49-59.

[6]U.S., Congress, House, Report of the Indian Commissioners, House Executive Document No. 97, 40th Cong., 1st sess., 1867, pp. 40-2.

[7]Charles J. Kappler, ed., INDIAN AFFAIRS: LAWS AND TREATIES Vol. II (Washington, D.C.: Government Printing Office, 1904), pp. 1008, 1012.

[8]Ibid.

[9]Weist, A HISTORY OF THE CHEYENNE PEOPLE, p. 72.

[10]U.S., Department of Interior, ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR: REPORT OF THE COMMISSIONER OF INDIAN AFFAIRS FOR 1878, p. 455-57, (hereafter cited ANNUAL REPORT OF THE CIA).

[11]Dusenberry, "The Development of Montana's Indians," p. 8.

Footnote abbreviations are as follows: Billings Area Office (BAO), Bureau of Indian Affairs (BIA), Central Files (CF), Commissioner of Indian Affairs (CIA), Denver Federal Archives and Record Center (Denver FARC), General Services (GS), National Archives (NA), Record Group (RG), Seattle Federal Archives and Record Center (Seattle FARC).

[12]U.S., Department of Interior, ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1882, p. x (hereafter cited ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR).

[13]Dusenberry, "The Development of Montana's Indians," pp. 42, 46.

[14]ANNUAL REPORT OF THE CIA FOR 1885, p. 61.

[15]YELLOWSTONE JOURNAL (Miles City, Montana), July 31, 1879.

[16]YELLOWSTONE JOURNAL, August 14, 1878.

[17]YELLOWSTONE JOURNAL, November 27, 1879, February 14, 1880, and March 27, 1880.

[18]YELLOWSTONE JOURNAL, April 17, 24, May 29, and June 26, 1880.

[19]YELLOWSTONE JOURNAL, July 24, 1880, and August 14, 1880.

[20]YELLOWSTONE JOURNAL, August 21, 1880, and September, 1880.

[21]YELLOWSTONE JOURNAL, October 29, 1881, and November 12, 1881.

[22]YELLOWSTONE JOURNAL, January 14, 1882, and May 27, 1882.

[23]See William Gaw's 1884 "Map of Southeastern Montana," in Chapter I of text.

CHAPTER II

NORTHERN CHEYENNE: EARLY RESERVATION FORESTRY

[1]ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1885, vol. 2, pp. 61-2.

[2]ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1886, vol. 1, pp. 403-4.

[3]Ibid., p. 403.

[4]Ibid.

[5]Impacts of Modern Man on the Ecology of the Northern Cheyenne Forest, George Wynn, March, 1977, Northern Cheyenne Agency, Lame Deer, Montana.

[6]ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1886, vol. 1, p. 404.

[7]ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1887, vol. 2, p. 230.

[8]ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1888, p. 165.

[9]Ibid., p. 166.

[10]ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1890, vol. 2, p. 135.

[11]ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1891, vol. 2, pp. 285-86.

[12]Ibid., p. 287.

[13]Ibid,, p. 286.

[14]ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1892, vol. 2, pp. 301-3.

[15]Report of Acting Agent Captain Stouch, September, 1895.

[16]ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1896, vol. 2, p. 195.

[17]ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1897, p. 176.

[18]ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1898, pp. 89-90.

[19]ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1899, Part 1, pp. 137-8.

[20]U.S., Congress, House, Committee on Indian Affairs, A Report Relating to the Proposed Removal of the Northern Cheyenne Indians, Document No. 153, 55th Cong., 3rd sess., 1899, p. 6.

[21]ANNUAL REPORT OF THE SECRETARY OF INTERIOR FOR 1900, pp. 170-1.

[22]Ibid., p. 273.

[23]Ibid., p. 274.

[24]Ratified by Congress, March 3, 1903, U.S., STATUTES AT LARGE, vol. 32, p. 1000.

[25]ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1903, Part 1, p. 200.

[26]ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1904, Part 1, pp. 235, 621.

[27]ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1905, Part 1, pp. 246-7.

[28]ANNUAL REPORT OF THE SECRETARY OF THE INTERIOR FOR 1906, p. 262.

[29]Memorandum, E. W. Hartwell, Timber Conditions on Northern Tongue River Cheyenne Indian Reservation, June 28, 1926, File: "Fire Protection-339.13," Northern Cheyenne Box 286, RG 75, Seattle FARC.

[30]Letter, Acting Commissioner Larrabee to Superintendent, Tongue River Agency, January 28, 1908, File: "Letters 1906-1909," Northern Cheyenne Box 1, RG 75, Seattle FARC.

[31]Letter, Acting Commissioner Larrabee to Secretary of the Interior, October 10, 1906, File: "Letters 1906-1909," Northern Cheyenne Box 1, RG 75, Seattle FARC.

[32]Letter, C.F. Larrabee to Superintendent, Tongue River Agency, May 9, 1908, and January 4, 1908, File: "Authorities 1905-1908," Northern Cheyenne Box 8, RG 75, Seattle FARC.

[33]Weist, A HISTORY OF THE CHEYENNE PEOPLE, pp. 163-4.

[34]Report on Wind-Thrown Timber in the Northern Cheyenne Indian Reservation, E.A. Sherman, May 4, 1908, File: "30637-10-Indian Service-339," CF 1907-1939, RG 75, NA.

[35]Letter, Acting Commissioner Larrabee to Superintendent, Tongue River Agency, January 8, 1908, File: "Letters 1906-1909," Northern Cheyenne Box 1, RG 75, Seattle FARC.

[36]Ibid.

[37]Letter, Acting Commissioner Larrabee to Superintendent, Tongue River Agency, June 5, 1907, File: "Letters 1906-1909," Northern Cheyenne Box 1, RG 75, Seattle FARC; and Report on Wind-Thrown Timber in the Northern Cheyenne Indian Reservation, E.A. Sherman, May 4, 1908, File: "30637-10-Indian Service-339," CF 1907-1939, RG 75, NA.

[38]Letter, Acting Commissioner Larrabee to Superintendent, Tongue River Agency, May 7, 1908, File: "Purchase/Forestry 1908-1909," Northern Cheyenne Box 9, RG 75, Seattle FARC.

[39]Letter, Acting Commissioner Larrabee to Superintendent, Tongue River Agency, June 15, 1908, File: "Purchase/Forestry 1908-1909," Northern Cheyenne Box 9, RG 75, Seattle FARC.

[40]Letter, Acting Commissioner Larrabee to Superintendent, Tongue River Agency, January 27, 1908, File: "Authorities 1905-1908," Northern Cheyenne Box 8, RG 75, Seattle FARC.

[41]Plan for Cooperation Between the Indian Office and the Forest Service, January 22, 1908, File: "40986-10-Indian Service-339," CF 1907-1939, RG 75, NA.

[42]Ibid.

[43]Circular Letter 185, March 2, 1908, File: "6357-08-GS-339," CF 1907-1939, RG 75, NA.

[44]Letter, E. A. Sherman to Forester, Washington, D.C., May 4, 1908, File: "30637-10-Indian Service-339," CF 1907-1939, RG 75, NA.

[45]Ibid.

[46]Ibid.

[47]Ibid.

[48]Ibid.

[49]Ibid.

[50]Telegrams, Sherman to Forester, Washington, D.C., May 14, 1908, Carter to Woodward, May 14, 1908, and Woodward to Carter, May 21, 1908, File: "30637-10-Indian Service-339," CF 1907-1939, RG 75, NA.

[51]Report, Northern Cheyenne Indian Reservation, U.S. Forest Service Examiner K.W. Woodward, June, 1908, File: "30637-10-Indian Service-339," CF 1907-1939, RG 75, NA.

[52]Ibid.

[53]Letter, Superintendent J.R. Eddy to E.E. Carter, July 2, 1908, File: "47515-08-Tongue River-339," CF 1907-1939, RG 75, NA.

[54]Ibid.

[55]Telegram, S. Cross to Forester, Washington, D.C., September 2, 1908, File: "30637-10-Indian Service-339," CF 1907-1939, RG 75, NA.

[56]Ibid.

[57]Letter, Lumberman Samuel Cross to Forester, Washington, D.C., October 13, 1908, File: "30637-10-Indian Service-339," CF 1907-1939, RG 75, NA.

[58]Letter, Secretary R.A. Ballinger to President Taft, May 28, 1909, File: "21639-09-Tongue River-339," CF 1907-1939, RG 75, NA.

[59]Letter, R. Zon to District Forester, June 23, 1909, File: "30637-10-Indian Service-339," CF 1907-1939, RG 75, NA.

[60]Ibid.

CHAPTER III

OFFICE OF INDIAN AFFAIRS FOREST ADMINISTRATION

[1]Letter, Acting Secretary F. Pierce to CIA, July 17, 1909, File: "6357-08-GS-339," CF 1907-1939, RG 75, NA.

[2]Ibid.

[3]Ibid.

[4]Letter, J. Carroll to CIA, November 19, 1910, File: "92377-10-GS-339," CF 1907-1939, RG 75, NA.

[5]Memorandum, J. Farr, October 7, 1910, File: "92377-10-GS-339," CF 1907-1939, RG 75, NA.

[6]J.P. Kinney, INDIAN FOREST AND RANGE: A HISTORY OF THE ADMINISTRATION AND CONSERVATION OF THE REDMAN'S HERITAGE (Washington, D.C.: Forestry Enterprises, 1950), pp. 91-7.

[7]Letter, Superintendent J. Eddy to CIA, March 24, 1910, File: "3568-10-Tongue River-339," CF 1907-1939, RG 75, NA.

[8]Ibid.

[9]Telegrams, J.P. Kinney to CIA, June 15, 1910, and Chief Clerk C.F. Hauke to Indian School, Lame Deer, June 17, 1910, File: "50351-10-Tongue River-339," CF 1907-1939, RG 75, NA.

[10]Letter, J.P. Kinney to CIA Valentine, June 16, 1910, File: "50351-10-Tongue River-339," CF 1907-1939, RG 75, NA; and Letter, J.P. Kinney to CIA, July 16, 1910, File: "59565-10-GS-339," CF 1907-1939, RG 75, NA.

[11]Memorandum, J. Farr, May 17, 1010; Letter, Secretary of the Interior R.A. Ballinger to Senator M. Clapp, May 21, 1910; and Letter, R.A. Ballinger to CIA, May 16, 1910, File: "99613-07-GS-339," CF 1907-1939, RG 75, NA.

[12]Letter, Second Assistant Commissioner Hauke to J. Eddy, February 23, 1911, File: "20442-11-GS-339," CF 1907-1939, RG 75, NA.

[13]Ibid.

[14]Letter, J.R. Eddy to CIA, March 6, 1911, File: "20442-11-GS-339," CF 1907-1939, RG 75, NA.

[15]Ibid.; and Memorandum, J.P. Kinney, March 24, 1911, File: "20442-11-GS-339," CF 1907-1939, RG 75, NA.

[16]Report of S.F. O'Fallon, Indian Inspector, June 16, 1909, File: "51313.3-09-Inspection Division Inspection Reports of Indian Bureau 1908-1924," Box 7, RG 48, NA.

[17]Letter, J. Brunner to A.D. Hopkins, June 22, 1911, File: "20442-11-Tongue River-339," CF 1907-1939, RG 75, NA.

[18]Ibid.

[19]Letter, J.R. Eddy to CIA, June 22, 1911, File: "20442-11-Tongue River-339," CF 1907-1939, RG 75, NA.

[20]Letter, J.R. Eddy to CIA, August 8, 1911, File: "20442-11-Rongue River-339," CF 1907-1939, RG 75, NA.

[21]Authority for Purchase of Sawmills, September 5, 1911, File: "20442-11-Tongue River-339," CF 1907-1939, RG 75, NA.

[22]Letter, J.R. Eddy to CIA, December 18, 1911, File: "20442-11-Tongue River-339," CF 1907-1939, RG 75, NA.

[23]Letter, F.H. Abbott to C.E. Dunston, January 3, 1912, File: "20442-11-Tongue River-339," CF 1907-1939, RG 75, NA.

[24]Memorandum, A.C. Chittenden, January 19, 1912, and Letter, F.H. Abbott to Indian School, Lame Deer, January 19, 1912, File: "20442-11-Tongue River-339," CF 1907-1939, RG 75, NA.

[25]Letter, C.E. Dunston to CIA, January 19, 1912, File: "20442-11-Tongue River-339," CF 1907-1939, RG 75, NA.

[26]Letter, C.E. Dunston to CIA, February 5, 1912, File: "20442-11-Tongue River-339," CF 1907-1939, RG 75, NA.

[27]Letter, C.F. Hauke to Indian School, Lame Deer, February 14, 1912, File: "20442-11-Tongue River-339," CF 1907-1939, RG 75, NA.

[28]Ibid.

[29]Report Control of Bark Beetle Infestation Northern Cheyenne Indian Reservation 1912, C.E. Dunston, File: "20442-11-Tongue River-339," CF 1907-1939, RG 75, NA.

[30]Ibid.

[31]Ibid.

[32]Ibid.

[33]Ibid.

[34]Letter, Clerk Hale to CIA, July 8, 1912, File: "20442-11-Tongue River-339," CF 1907-1939, RG 75, NA.

[35]Letter, Lumberman E. Hamilton to CIA, July 30, 1912, File: "20442-11-Tongue River-339," CF 1907-1939, RG 75, NA.

[36]Letter, Secretary of Agriculture J. Wilson to Secretary of the Interior, October 9, 1912, File: "20442-11-Tongue River-339," CF 1907-1939, RG 75, NA.

[37]Letter, J.R. Eddy to Chittenden, August 9, 1912, File: "Insect Control-Forestry," Northern Cheyenne Box 46, RG 75, Seattle FARC.

[38]Letter, L.O. Howard, Chief of Bureau of Entomology, to C.F. Hauke, May 26, 1913, File: "20442-11-Tongue River-339," CF 1907-1939, RG 75, NA.

[39]Ibid.

[40]Letter, Superintendent J.R. Eddy to CIA, August 22, 1914, File: "91225-14-Tongue River-339," CF 1907-1939, RG 75, NA; and Letter, Superintendent Eddy to CIA, January 29, 1914, File: "288-Sawmills," Northern Cheyenne Box 43, RG 75, Seattle FARC.

[41]Letter, CIA R.G. Valentine to Superintendents, Circular Letter 678, September 6, 1912, File: "82-Indian Homes," Northern Cheyenne Box 38, RG 75, Seattle FARC.

[42]Letter, Superintendent Eddy to W. Rowland, September 11, 1912, File: "82-Indian Homes," Northern Cheyenne Box 38, RG 75, Seattle FARC.

[43]Ibid.; and Letter, Superintendent Eddy to CIA, October 8, 1912, File: "82-Indian Homes," Northern Cheyenne Box 38, RG 75, Seattle FARC.

[44]Letter, Superintendent Eddy to CIA, August 22, 1914, File: "91225-14-Tongue River-339," CF 1907-1939, RG 75, NA.

[45]Annual Report of the Northern Cheyenne Superintendent for 1913.

[46]Letter, Superintendent Eddy to CIA, August 22, 1914, File: "91225-14-Tongue River-339," CF 1907-1939, RG 75, NA.

[47]Annual Report of the Northern Cheyenne Superintendent for 1915.

[48]Letter, Chief Clerk in Charge to J. Davidson, June 18, 1914, File: "288-Sawmills," Northern Cheyenne Box 43, RG 75, Seattle FARC.

[49]Letter, Lumberman M. Burns to CIA, July 25, 1914, File: "75423-14-Tongue River-339," CF 1907-1939, RG 75, NA.

[50]Ibid.

[51]Ibid.

[52]Letter, J.P. Kinney to Officers in Charge, April 18, 1910, File: "00-1910-GS-339," CF 1907-1939, RG 75, NA.

[53]Letter, O. Waddell to CIA, January 25, 1915, File: "14290-15-Tongue River-339," CF 1907-1939, RG 75, NA.

[54]Ibid.

[55]Letter, Superintendent Buntin to CIA, Jun3 5, 1916, File: "66431-15-Tongue River-339," CF 1907-1939, RG 75, NA.

[56]Supplemental Inspection Report: Tongue River Reservation, L.F. Michael, June 16, 1916, File: "67315-16-Tongue River-339," CF 1907-1939, RG 75, NA.

[57]Letter, J. Wetherbee to CIA, August 4, 1916, File: "85094-16-Tongue River-339," CF 1907-1939, RG 75, NA.

[58]Ibid.

[59]Miscellaneous letters dated December, 1917, to September, 1918, File: "Sawmill-288," Northern Cheyenne Box 67, RG 75, Seattle FARC.

[60]Miscellaneous correspondence, 6 letters, File: "Forestry-283," Northern Cheyenne Box 67, RG 75, Seattle FARC.

[61]Annual Narrative and Statistical Report: Tongue River Agency, 1921 and 1923, RG 75, NA microfilm.

[62]Farmers Weekly Reports, March-June, 1923, File: "Farmers Reports," Northern Cheyenne Box 79, RG 75, Seattle FARC.

[63]Letter, Superintendent J. Buntin to CIA, October 14, 1916, and reply of November 1, 1916, File: "109909-16-Tongue River-339," CF 1907-1939, RG 75, NA.

[64]Charles Hession and Hyman Sardy, ASCENT TO AFFLUENCE: A HISTORY OF AMERICAN ECONOMIC DEVELOPMENT (Boston: Allyn and Bacon, 1969), pp. 613, 618, 619.

[65]Montana Department of Agriculture, Labor and Industry, INDUSTRIAL RESOURCE EDITION (Helena, 1923), p. 48.

[66]Letter, Superintendent Boggess to CIA, May 21, 1923, File: "43154-23-Tongue River-339," CF 1907-1939, RG 75, NA.

[67]Ibid.

[68]Letters, Assistant Commissioner to Superintendent Boggess, April 12, 1923, Assistant Commissioner to American Legion Ashland Post Adjutant O.F. Coombe, April 12, 1923, and O.F. Coombe to CIA, April 2, 1923, File: "28241-23-Tongue River-339," CF 1907-1939, RG 75, NA.

[69]Letter, A. Simpson to Superintendent C.B. Lohmiller, March 24, 1925, File: "75423-14-Tongue River-339," CF 1907-1939, RG 75, NA.

[70]Letter, Assistant Commissioner E.B. Merritt to C.B. Lohmiller, April 7, 1925, File: "75423-14-Tongue River-339," CF 1907-1939, RG 75, NA.

[71]Memorandum on Timber Conditions on Northern Tongue River Cheyenne Indian Reservation, E.W. Hartwell, June 28, 1926, copy from USDA Forest Service "1600 File," Custer National Forest.

[72]Letter, Lee Muck to CIA, August 28, 1926, File: "41432-26-Tongue River-339," CF 1907-1939, RG 75, NA.

[73]Ibid.

[74]Ibid.

[75]Ibid.

[76]Ibid.

CHAPTER IV

THE ADVENT OF PROFESSIONAL FORESTRY ON NORTHERN CHEYENNE

[1]Letter, D.E. Harbison to Superintendent Lohmiller, May 27, 1927, File: "004-Indian Correspondence-Chronological 13-1-26 to 5-31-27," Northern Cheyenne Box 86, RG 75, Seattle FARC.

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ARCHIVAL COLLECTIONS

National Archives of the United States (Record Group 75, Bureau of Indian Affairs)

A significant collection of official correspondence relating to Bureau of Indian Affairs forestry activities can be found among the holdings of the National Archives in Washington, D.C. The extensive collection of the Bureau of Indian Affairs' records at the National Archives includes archival boxes of materials pertaining to nearly all Agency forestry programs. Documents in this group cover the time period from the formation of the various Indian reservations to circa 1954. The most comprehensive guide to this manuscript collection is RECORDS OF THE BUREAU OF INDIAN AFFAIRS: NATIONAL ARCHIVES PRELIMINARY INVENTORY NO. 163, compiled by Edward E. Hill in two volumes and published in Washington in 1965.

The bulk of reservation forestry material is located in the "Central Classified Files: 1907-1939." Under that heading one finds archival boxes in "Decimal Classification 339, Forests" that pertain to the individual reservations. Included in those boxes are letters received, copies of letters sent, reports, memoranda, contracts, certificates, circulars, photographs, and miscellaneous items related to the forestry program. Individual subject files within the archival boxes are arranged chronologically by year and Indian Office File Number. The date on a file was determined by the date on the first document enclosed, and the file number will be identical with that of the first enclosure. (Our citation for these files includes the file number, year of the base letter, agency or jurisdiction, and decimal classification, for example 6275-12-Crow-339.)

Information on early sawmill operation and trespass may be found in "Letters Received: 1824-1907." This large grouping of miscellaneous incoming correspondence is an important source for the history of Indian Agencies, agents, traders, settlers, etc., in the trans-Mississippi West. Records in this group are classified under Montana Superintendency from 1864-1880. From 1880, they are under Agency. "Letters Received: 1824-1880" are available on microfilm under the heading of National Archives Microfilm Publication 234. "Letters Received: 1881-1907" are available for inspection at the National Archives. Forestry-related documents would be found under the heading "Land," which represents materials accumulated by the Land Division before 1908.

Washington National Records Center (Suitland, Maryland)

The Washington National Records Center contains all of the BIA Branch of Forestry records of the Washington, D.C., office that are not archival or active. Until recently those records included Decimal Files from 1940 to approximately 1965. Many files for the period 1940 to circa 1955 have since been transferred to archival status and forwarded to the National Archives. The pertinent records on deposit at this agency are under the same decimal classifications as those in the National Archives. Of particular interest are policy-oriented papers, timber sale documents, and trip reports of Washington, D.C., staff officers of the Branch of Forestry.

BIA Central Offices (Interior Department Building, Washington, D.C.)

Located within the Branch of Forestry's offices in Washington, D.C., are several aids to researching the history of forest management on Indian reservations in Montana and Wyoming. Most important is the Timber Sale Data Card File which contains timber contract data for all reservations with forestry programs. A large collection of photographs in those offices is particularly useful for identifying people active in

Branch of Forestry operations over the years. In addition, those offices contain a large collection of published and unpublished reports concerning forestry on Indian lands.

Denver Federal Archives and Records Center (Record Group 75, Bureau of Indian Affairs)

Located at the Denver Federal Archives and Records Center in Denver, Colorado, are a multitude of records pertaining to forestry on Indian lands under the jurisdiction of the BIA Billings Area Office. Since about 1960, records from the Billings Area Office have gone to that depository, although records sent include inactive files from earlier time periods. To date, no inventories have been prepared for those records. The only guide is the group of accession lists, copies of which are available at the records center or from the Agency that generated the records and sent them to the records center. This records center contains the single largest volume of Government documents, with the exception of the National Archives, or BIA Branch of Forestry activities on the Wind River Indian Reservation.

Seattle Federal Archives and Records Center (Record Group 75, Bureau of Indian Affairs)

Much of the forestry material for Montana Indian reservations is available for review at the Federal Archives and Records Center in Seattle, Washington. Documents at that repository cover the period from the establishment of the reservations to 1960. Beginning in the 1960's, the Bureau of Indian Affairs jurisdictional areas under the Billings Area Office began sending records to the Federal Archives and Records Center in Denver, Colorado. Preliminary inventories are available for archival holdings for most Montana Indian reservations.

The collection is quite extensive. The contents range in value from scale books, permit records, and tally sheets, which are of little use to the researcher, to timber sale files, which are extremely valuable. A contract, certificate of completion, Timber Sale Report, and correspondence with the operator comprise most of an individual timber sale file.

Bureau of Indian Affairs, Branch of Forestry (Montana and Wyoming Agencies)

There are numerous files and documents available at the BIA Branch of Forestry offices at the various Agencies. Most of these materials pertain to the administration of the forestry programs over the last 10 to 20 years.

Records of timber sales contain the most valuable material. Certificates of Completion can be found in some General Accounting Office Files and Allotment Files. Other files contain Forest Officer's Reports, contracts, and correspondence.

The 339 decimal classification files at the Agencies are another source of information for the researcher. In 1978, this classification number was changed, but inactive or old files were not changed. Most old "339" files are now under "1107." Of particular value at most Agencies are Annual Forestry Reports, Annual and Normal Fire Year Plans, correspondence files, trip reports, photographs, and cartographic records.

BIA Billings Area Office, Branch of Forestry (Billings, Montana)

Of inestimable value in the research of forestry on Indian reservations in Montana and Wyoming are the records in the Branch of Forestry at the BIA Billings Area Office. This collection is categorized under the Decimal Classification system, with some 32 file drawers, nearly all full, at this location. Old files are currently sent to the Federal Archives and Records Center in Denver, Colorado. Also located in the office are annual statistical summaries of timber harvest, forest fires, and forest development projects for individual Indian reservations under the jurisdiction of the Billings Area Office. A large collection of old photo albums, most dating the 1930's, are in the office. Most records in this office date to the 1940's when the Area Office was established. Billings Area Forester Paul Kipp has been associated with this office since the early 1960's and is a valuable contact for information pertaining to forestry programs on all Montana and Wyoming Indian reservations for the period from the 1950's to the present.

University of Montana Archives (Clarence Strong Papers)

The Clarence Strong Papers are a tremendous research source for the student of logging history of western Montana. The transcripts contain names, information excerpted from journals and magazines, and personal interviews with lumbermen throughout the region. In addition, they are indexed.

University of Montana Archives (Records of the Northern Forestry Association)

These records are on six rolls of microfilm and represent the accumulation of six scrapbooks on the Association for the period 1911-1963. The scrapbooks include auditor's reports, minutes of meetings, membership lists, and annual reports.

APPENDIX A

Chronology of Key Bureau of Indian Affairs Personnel Involved in Forest Management on the Reservation *

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*This appendix was compiled from employee rosters, signatures on correspondence, and signatures on annual reports. The dates given in many instances are, therefore, only approximations.

COMMISSIONERS OF INDIAN AFFAIRS

COMMISSIONERS	YEAR OF APPOINTMENT	PRESIDENT
Elbert Herring	1832	Andrew Jackson
Carey A. Harris	1836	Andrew Jackson and Martin Van Buren
T. Hartley Crawford	1838	Martin Van Buren, William H. Harrison, and John Tyler
William Medill	1845	James K. Polk and Zachary Taylor
Orlando Brown	1849	Zachary Taylor and Millard Fillmore
Luke Lea	1850	Millard Fillmore
George Manypenny	1853	Franklin Pierce
James W. Denver	1857	James Buchanan
Charles E. Mix	1858	James Buchanan
James W. Denver	1858	James Buchanan
Alfred B. Greenwood	1859	James Buchanan
William P. Dole	1861	Abraham Lincoln and Andrew Johnson
Dennis Cooley	1865	Andrew Johnson
Lewis V. Bogy	1866	Andrew Johnson
Nathaniel G. Taylor	1867	Andrew Johnson
Eli S. Parker	1869	Ulysses S. Grant
Francis A. Walker	1871	Ulysses S. Grant
Edward P. Smith	1873	Ulysses S. Grant
John O. Smith	1875	Ulysses S. Grant and R.B. Hayes
Ezra A. Hayt	1877	Rutherford B. Hayes
R.E. Trowbridge	1880	Rutherford B. Hayes
Hiram Price	1881	James Garfield and Chester A. Arthur

COMMISSIONERS	YEAR OF APPOINTMENT	PRESIDENT
John D. C. Atkins	1885	Grover Cleveland
John H. Oberly	1888	Grover Cleveland
Thomas J. Morgan	1889	Benjamin Harrison
Daniel M. Browning	1893	Grover Cleveland
William A. Jones	1897	William McKinley and Theodore Roosevelt
Francis E. Leupp	1904	Theodore Roosevelt
Robert G. Valentine	1909	William Howard Taft
Cato Sells	1913	Woodrow Wilson
Charles H. Burke	1921	Warren G. Harding and Calvin Coolidge
Charles J. Rhoads	1929	Herbert Hoover
John Collier	1933	Franklin D. Roosevelt
William A. Brophy	1945	Franklin D. Roosevelt and Harry S. Truman
John R. Nichols	1949	Harry S. Truman
Dillon S. Myer	1950	Harry S. Truman
Glenn L. Emmons	1953	Dwight D. Eisenhower
Philleo Nash	1961	John F. Kennedy and Lyndon B. Johnson
Robert L. Bennett	1966	Lyndon B. Johnson
Louis R. Bruce	1969	Richard M. Nixon
Morris Thompson	1973	Richard M. Nixon and Gerald Ford
Benjamin Reifel	1976	Gerald Ford
Forrest J. Gerard	1977*	Jimmy Carter
William E. Hallett	1979	Jimmy Carter

*Title changed to Assistant Secretary of Indian Affairs.

CHIEF, BRANCH OF FORESTRY

(CHIEF FORESTER)

Alfred K. Chittenden (Indian Service Forester)	1911-1913
Franklin W. Reed (Indian Service Forester)	1913-1914
J. P. Kinney (Chief, Supervisor of Forests)*	1914-1933
Robert Marshall (Director of Forestry)	1933-1944
L. D. Arnold (Director of Forestry)	1944-1953
Percy Melis	1954-1957
George S. Kephart	1957-1964
Perry E. Skarra	1965-1969
Earl Wilcox	ca. 1970-1973
Gregory Stevens	1974-1977
George E. Smith	1978-present

*Later called the Director of Forestry and Chief, Branch of Forestry.

AREA FORESTERS

George M. Nyce (Regional Forester)	1936-1940
Thomas L. Carter	1941-1954
Nicholas Welter	1955-1965
Paul R. Kipp	1966-present

AREA DIRECTORS

Paul L. Fickinger*	1946-1954
John M. Cooper	1954-1955
Percy E. Melis	1957-1961
James F. Canan	1962-1978
Anson Baker	1979-present

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*From 1946 to 1949 the Area Office was called the District Office. Billings was District 2, and Paul Fickinger was called the District Director.

LIST OF INDIAN AGENTS AND AGENCY SUPERINTENDENTS:

NORTHERN CHEYENNE (TONGUE RIVER) RESERVATION

From 1789 until 1824, Indian matters were the direct responsibility of the Secretary of War, with the exception of the Government-operated factory system of trade with the Indians 1806-1822), which was administered by a Superintendent of Indian Trade responsible to the Secretary.*

R. C. Upshaw (farmer in charge)	1886
James A. Cooper	1890
John Tully	1890-1893
Thomas Sharp	1893-1894
George W. H. Stough (acting)	1894-1897
J. A. Clifford	1897-1906
John R. Eddy	1906-1914
John A. Buntin	1914-1920
Owen M. Boggess	1920-1924
Charles B. Lohmiller	1924-1931
Willard R. Centerwall	1931-1936
George R. Smith (Chief Clerk in charge)	1936
Charles H. Jennings	1936-1944
Gordon Macgregor	1945-1948
John G. Hunter	1948-1950
Carl L. Pearson	1950-1957
Don Y. Jensen	1957-1963
John H. Artichoker, Jr.	1963-1967
John R. White	1967-1971
Alonzo T. Spang, Sr.	1971-1974
John Buffalohorn	1977-1979
vacant	January, 1980

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*David Piff, Preliminary Inventory of the Records of the Northern Cheyenne Indian Agency, Record Group 75, Seattle Federal Archives and Records Center, Seattle, Washington.

FOREST MANAGERS*

NORTHERN CHEYENNE INDIAN RESERVATION

Donald E. Harbison (Senior Forest Ranger)	1927-1929
W. R. Centerwall	1929-1931
Carl D. Rawie	1931-1934
T. E. Norton	1934-1938
J. D. Lamey	1938-1941
Perry E. Skarra	1942-1944
Nat B. Hanson	1944-1954
Victor K. Meeker	1954-1959
W. Howard Welton	1959-1966
Robert C. Brown	1966-1973
Keith Beartusk	1973-1978
Bill Watters	1980-present

*The Forest Manager position previously was titled Senior Ranger or Forest Supervisor.

APPENDIX B

Fire Chronology*

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*The following fire chronology was compiled principally from annual statistical summaries of the BIA Billings Area Office Branch of Forestry, from Annual Forestry Reports of the Agency, and from Annual Narrative and Statistical Reports of the Superintendents. Other sources included fire plans and miscellaneous correspondence. In some instances it was not possible to determine if the reports were by calendar year or by fiscal year.

In recent years the Branch of Forestry has attempted to place fire data onto a computer system. Information for the last 10 years was taken from the 1980 Norman Fire Year Plan, recently compiled at each Agency.

YEAR	CLASS A	B	C	D	E	CAUSE Railroad	Lightning	Incendiary	Brush Burning	Campers	Unknown	Miscellaneous	TOTAL FIRES	ACRES BURNED
FY 1912													2	1,500
FY 1913													0	0
FY 1915	1									1			1	2
FY 1916													1	20
FY 1917		2									2		2	100
FY 1919													2	300
FY 1920		1									1		1	
FY 1921	2												2	1,500
FY 1922		2									2		2	100
FY 1924			1								1		1	1,700
FY 1925			1								1		1	75
FY 1927		1	4				4				1		5	80
FY 1928		2									2		2	12
FY 1929			6								4	2	6	2,940
FY 1930		3	3					2				4	6	666
FY 1931	2	9	5				8			4	2	2	16	6,360
FY 1932	4	9	8				13	1			2	5	21	5,471
FY 1933	9	4	0				10		1	2			13	13
FY 1934	5	8	4				5		4	1		7	17	778
FY 1935	3	4	5				4				1	7	12	1,327
FY 1936	1	6	1				3	1				2	8	133
FY 1937	8	4											12	12
FY 1938	7	3											10	5.5
FY 1939	7	4	2										13	42
FY 1940	19	18	4										41	2,047
FY 1941	17	17	3		1		35		1			2	38	2,044
FY 1942	8	3					8		1	2			11	22
CY 1943	5	6	5	1			11		4	1		1	17	259
CY 1944	1	5	1				3			2	2		7	43
CY 1945	4	4	1	2	1		2	1	4	1		4	12	896

*Fire Classification:

Class A: 0 - .25 acres
Class B: .26 - 9 acres
Class C: 10 - 99 acres
Class D: 100 - 299 acres
Class E: 300 - 999 acres (Prior to 1977 this classification covered all fires 300 acres or larger.)
Class F: 1,000 - 4,999 acres
Class G: 5,000 acres or larger

YEAR	CLASS* A	B	C	D	E	F	G	CAUSE Railroad	Lightning	Incendiary	Brush Burning	Campers	Unknown	Miscellaneous	TOTAL FIRES	ACRES BURNED
CY 1946	9	6	1	1	2	-	-	-	7	8	-	1	-	3	19	2,353
CY 1947	5	3	5	-	-	-	-	-	11	1	-	-	-	1	13	144
CY 1948	6	4	-	-	-	-	-	-	10	1	-	-	-	-	11	1,280
CY 1949	7	6	6	-	-	-	-	-	16	1	-	-	-	2	19	251
CY 1950	2	7	1	-	-	-	-	-	8	1	-	1	-	-	10	48
CY 1951	9	3	-	-	-	-	-	-	13	-	-	-	-	-	13	130
CY 1952	10	15	5	1	-	-	-	-	26	-	-	-	-	5	31	314
CY 1953	13	9	1	-	-	-	-	-	17	-	-	1	-	5	23	76
CY 1954	4	2	1	-	-	-	-	-	7	-	-	-	-	-	7	15
CY 1955	3	3	1	-	-	-	-	-	4	-	-	-	-	5	9	625
CY 1956	12	20	11	-	-	-	-	-	37	1	2	-	-	-	43	341
CY 1957	-	4	1	1	-	-	-	-	6	-	-	-	-	-	6	170
CY 1958	5	2	2	1	-	-	-	-	5	-	2	1	-	-	10	232
CY 1959	7	12	2	-	1	-	-	-	13	-	-	2	-	7	22	1,202
CY 1960	14	13	8	-	-	-	-	-	26	-	4	-	-	5	35	232
CY 1961	11	11	3	-	1	-	-	-	21	3	-	-	-	3	26	833
CY 1962	5	7	-	-	-	-	-	-	7	1	-	2	-	2	12	14
CY 1963	14	5	4	-	-	-	-	-	13	5	-	3	-	2	23	165
CY 1964	3	8	-	2	-	-	-	-	6	5	-	1	-	1	13	292
CY 1965	13	17	6	2	2	-	-	-	35	3	-	1	-	1	40	162
CY 1966	11	18	7	3	1	-	-	-	29	4	-	-	-	8	41	2,066
CY 1967	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,816
CY 1968	4	14	4	2	-	-	-	-	8	-	-	5	-	10	23	402
CY 1969	19	21	13	-	-	-	-	-	17	4	-	15	-	17	53	504
CY 1970	18	22	13	-	-	-	-	-	11	-	-	-	-	-	53	143
CY 1971	8	11	3	1	-	-	-	-	8	-	-	-	-	-	23	315
CY 1972	12	12	5	-	-	-	-	-	13	-	-	-	-	-	29	144
CY 1973	12	18	6	-	-	-	-	-	21	-	-	-	-	-	36	222
CY 1974	12	8	1	-	-	-	-	-	4	1	-	8	-	7	21	36
CY 1975	15	9	5	-	-	-	-	-	5	-	-	-	-	-	29	193
CY 1976	23	14	5	-	1	-	-	-	18	-	-	-	-	-	43	844
CY 1977	29	8	5	-	-	-	-	-	7	-	-	11	-	24	42	223
CY 1978	43	15	2	1	-	-	-	-	23	-	-	-	-	-	61	290
CY 1979	42	21	6	-	-	1	-	-	17	-	-	-	-	-	80	1,551

APPENDIX C

Annual Timber Cutting Summaries

NORTHERN CHEYENNE INDIAN RESERVATION ANNUAL TIMBER CUTTING SUMMARIES

	TOTAL		PERMITS		FREE USE		CONTRACTS		
Year	*MBM*	*Value*	*MBM*	*Value*	*MBM*	*Value*	*MBM*	*Value*	*Ave. Stump.*
FY 1916	250	2350							
FY 1917	100	300					100	300	3.0
FY 1920	200	600					200	600	3.0
FY 1921	250	750					250	750	3.0
FY 1922	100	300					100	300	3.0
FY 1923	632	1896	32	96			600	1800	3.0
FY 1925	131.4	262.8					131.4	262.8	2.0
FY 1927	None								
FY 1928	270	810					270	810	3.0
FY 1929	100	300	100	300					
FY 1930	558*	1395	487	1211.5			75	187.5	2.5
FY 1931	500	1500	500	1500					
FY 1932	600	1800	400	1200			200**	600	3.0
FY 1935	284	4260							
FY 1936	317.5	606							

*Includes 75 MBM at a value of $187.50 cut by the Government.
**Cut by Government.

Year	TOTAL MBM	TOTAL Value	PERMITS MBM	PERMITS Value	FREE USE MBM	FREE USE Value	CONTRACTS MBM	CONTRACTS Value	Ave. Stump.
FY 1937	646	1938			646	1938			
FY 1938	540.3	1620	515.3	1545	25	75			
FY 1939	892	2676			892	2676			
FY 1942	964	2816	242	650	722	2166	100	300	3.0
CY 1943	1411.4	4216.5	11	14.5	784	2353	616.4	1849	3.0
CY 1944	1003	3011	7	22	724	2172	272	817	3.0
CY 1945	1180.8	2059.5	20	77.5	686	558	474.8	1424	3.0
CY 1946	1332	2658	107	362	694	582	531	1714	3.2
CY 1947	1169	3955	63	332	844	2470	262	1153	4.4
CY 1948	1628	7504	13	110	1176	3942	439	3452	7.9
CY 1949	1388	4631	13	61	1149	2326	226	2244	9.9
CY 1950	1849	6423	2	15	1441	2227	406	4181	10.3
CY 1951	1701	4992	3	25	1432	2122	258	2735	10.6
CY 1952	317	4269	3	44	147	1980	167	2245	13.5
CY 1953	509	6829	26	329	211	2842	272	3658	13.5
CY 1954	1875	14654	31	315	1049	3630	795	10709	13.5

Year	TOTAL MBM	TOTAL Value	PERMITS MBM	PERMITS Value	FREE USE MBM	FREE USE Value	CONTRACTS MBM	CONTRACTS Value	CONTRACTS Ave. Stump.
CY 1955	490*	2614	14	182	475	2432			
CY 1956	497	3003	4	49	493	2954			
CY 1957	2021	24862	4	81	241	1443	1776	23338	13.1
CY 1958	2193	22803	5	71	364	2020	1824	20712	11.4
CY 1959	579	5989	6	152	302	1832	271	4005	14.8
CY 1960	954	10720	1	9	365	2650	588	8061	13.7
CY 1961	837	4589	213	349	338	1952	286	2288	8.0
CY 1962	426	2013	3	7	255	662	168	1344	8.0
CY 1963	466	2995	31	181	198	603	237	2211	9.3
CY 1964	329	1605	8	18	203	693	118	894	7.6
CY 1965	296	1585	84	591	212	994			
CY 1966	145	965							
CY 1967	1385	3987	160	626	235	749	990	2612	2.6
CY 1968	909	5277	274	1277	162	693	473	3307	7.0
CY 1969	1095	17303	105	720	285	1478	705	15105	21.4

*1 MBM at a value of $20 cut in trespass.

Year	TOTAL MBM	TOTAL Value	PERMITS MBM	PERMITS Value	FREE USE MBM	FREE USE Value	CONTRACTS MBM	CONTRACTS Value	Ave. Stump.
CY 1970	4420	50983			455	2945	3965	48038	12.1
CY 1971	5604	81929	73	961	369	1798	5162	79170	15.3
CY 1972	2597	45493			446	2303	2151	43190	20.0
CY 1973	4303	147236			38	616	4265	146620	34.4
CY 1974	2285	70949			65	1006	2220	69943	31.5
CY 1975	301*	11510			52	1211	248	10299	41.5
CY 1976	377	10653			72	1302	305	9351	30.7
FY 1977	513	10908	155	2510	137	1040	221	7358	33.3
FY 1978	4003	103827	121	363	18	377	3864	103087	26.7
FY 1979	7236	344292	551	5515	19	428	6666	338349	50.8

*Includes 1 MBM at a value of $47 cut in trespass.

APPENDIX D

Sawmills

SAWMILL OPERATORS ON THE NORTHERN CHEYENNE RESERVATION

1. Arness-Anderson Corporation:
   The Arness-Anderson Corporation bought Ashland Lumber Company's holdings in 1977.

2. Ashland Lumber Company:
   Ashland Lumber Company operated a mill in 1968. After the sawmill burned in 1972, new facilities were opened in December, 1974. Arness-Anderson Corporation bought the mill in 1977.

3. Birney Indians:
   The Birney Indians operated a portable sawmill around 1928.

4. Black Lumber Company:
   In 1956, the Black Lumber Company operated a sawmill in Ashland with a 2.5 million board feet annual capacity. Around 1967 or 1968, the mill was moved to Lame Deer.

5. H.N. Black:
   Black operated a sawmill in the Sarpy Mountain area around 1968. In that same year, he moved the mill to Lame Deer. It is unclear whether or not H.N. Black was associated with the Black Lumber Company.

6. H.O. Hayden:
   Hayden operated a portable sawmill from 1942 until December, 1943.

7. Indian Owned:
   The Northern Cheyenne Indians operated a portable, water-powered sawmill in 1902. It had a 3,000 board feet daily capacity. The Government bought the mill for $800 in 1911, and the mill was out of use by 1914.

8. Robert Livingston:
   Livingston operated a portable sawmill in 1938.

9. A.L. Norris:
   Norris operated a sawmill at Lame Deer in 1956 with a 7 million board feet annual capacity.

10. Paul Siegfried:
    Siegfried operated a sawmill in 1947. In 1953 it was located in Lame Deer. The mill was still operating in the mid-1960's.

11. Earl Simpson:

Simpson operated a portable sawmill from 1937 until before 1943.

12. Ernest Taylor:

Taylor operated a sawmill in the southwest corner of the Reservation in 1916.

13. Tongue River Lumber Company:

The Tongue River Lumber Company operated a sawmill in Lame Deer from 1955 until it burned August 12, 1958. The mill was sold to A.L. and Leon Perry of the Saunders Lumber Company in 1960. The Perrys moved the mill to Lodge Grass.

14. Unknown Owner:

In 1888, Agent Upshaw reported a sawmill operating near the northeastern boundary of the Reservation. He was not sure if it was trespass because he lacked the proper maps.

15. Unknown Owner:

A sawmill was operating in the 1890's that may have been inside Reservation boundaries.

16. Unknown Owner:

An additional sawmill was operating in the 1890's that may have been inside Reservation boundaries.

U.S. Government Sawmills:

1. In 1907, a Government sawmill with a 25 h.p. boiler and 1,000 board feet per hour capacity operated in various locations on the Reservation. It was located at the head of Tie Creek, 15 miles southeast of Lame Deer in 1908, on Lame Deer Creek in 1911, and on South Fork of Anderson Gulch. It burned in November, 1917, and was replaced with a mill from the Blackfeet Agency.

2. The Government purchased the Indian owned sawmill in 1911 for $800. It was out of use in 1914.

3. A portable sawmill was purchased in 1913 for use at the Tongue River Training School at Busby. It was in storage for a few years because the school's physical plant was using the boiler. Sometime before 1916, a 25 h.p. Buffalo-Pitts steam tractor was used to power the mill.

4. The Government purchased a sawmill from Portland Machinery Company in March, 1918.

5. In 1930, a mill was purchased to replace the dilapidated Indian mill that was out of use in 1914.

APPENDIX E

Chronology of Statutes and Regulations Concerning Management, Sale, and Protection of Indian Timber

STATUTES

Act of March 3, 1883 (22 Stat. 582)

Proceeds of timber sales.

CHAP. 141.—An act making appropriations to supply deficiencies in the appropriations for the fiscal year ending June thirtieth, eighteen hundred and eighty-three, and for prior years, and for those certified as due by the accounting officers of the Treasury in accordance with section four of the act of June fourteenth, eighteen hundred and seventy-eight, heretofore paid from permanent appropriations, and for other purposes.

Be it enacted, &c., * * * SEC. 2. * * * The proceeds of all pasturage and sales of timber, coal, or other product of any Indian reservation, except those of the five civilized tribes, and not the result of the labor of any member of such tribe, shall be covered into the Treasury for the benefit of such tribe under such regulations as the Secretary of the Interior shall prescribe; and the Secretary shall report his action in detail to Congress at its next session. * * * [*March 3, 1883.*]

Act of June 4, 1888 (25 Stat. 166)

Penalty for timber depredations.

Be it enacted, &c., That section fifty-three hundred and eighty-eight of the Revised Statutes of the United States be amended so as to read as follows:

"Every person who unlawfully cuts, or aids or is employed in unlawfully cutting, or wantonly destroys or procures to be wantonly destroyed, any timber standing upon the land of the United States which, in pursuance of law, may be reserved or purchased for military or other purposes, or upon any Indian reservation, or lands belonging to or occupied by any tribe of Indians under authority of the United States, shall pay a fine of not more than five hundred dollars or be imprisoned not more than twelve months, or both, in the discretion of the court." [*June 4, 1888.*]

Act of February 16, 1889 (25 Stat. 673; 25 U.S.C. 196)

Permits the President to authorize the sale or disposal of dead and down timber on Indian lands.

Be it enacted, &c., That the President of the United States may from year to year in his discretion under such regulations as he may prescribe authorize the Indians residing on reservations or allotments, the fee to which remains in the United States, to fell, cut, remove, sell or otherwise dispose of the dead timber standing or fallen, on such reservation or allotment for the sole benefit of such Indian or Indians.

But whenever there is reasonable cause to believe that such timber has been killed, burned, girdled, or otherwise injured for the purpose of securing its sale under this act then in that case such authority shall not be granted. [*February 16, 1889.*]

Act of March 3, 1909 (35 Stat., 781)

Provides money for the creation of Branch of forestry.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and they are hereby, appropriated, out of any money in the Treasury not otherwise appropriated, for the purpose of paying the current and contingent expenses of the Indian Department, for fulfilling treaty stipulations with various Indian tribes, and in full compensation for all offices the salaries for which are specially provided for herein for the service of the fiscal year ending June thirtieth, nineteen hundred and ten, namely:

. . .

To enable the Commissioner of Indian Affairs, under the direction of the Secretary of the Interior, to make investigations on Indian reservations and take measures for the purpose of preserving living and growing timber, and removing dead timber, standing or fallen; to advise the Indians as to the proper care of forests, and to conduct such timber operations and sales of timber as may be deemed advisable and provided for by law, one hundred thousand dollars, of which ten thousand dollars shall be immediately available: *Provided,* That this section shall not apply to the Menominee Indian Reservation in Wisconsin.

Act of June 25, 1910 (Sec 7, 36 Stat. 857; 25 U.S.C. 407)

Authorizes the sale of timber from unallotted Indian lands, except in the States of Minnesota and Wisconsin, under regulations to be prescribed by the Secretary of the Interior.

SEC. 7. That the mature living and dead and down timber on unallotted lands of any Indian reservation may be sold under regulations to be prescribed by the Secretary of the Interior, and the proceeds from such sales shall be used for the benefit of the Indians of the reservation in such manner as he may direct: *Provided;* That this section shall not apply to the States of Minnesota and Wisconsin.[1]

Act of June 25, 1910 (Sec. 8, 36 Stat. 857; 26 U.S.C. 406)

Authorizes the sale of timber from allotted Indian lands by the allottee with the consent of the Secretary of the Interior.

SEC. 8. That the timber on any Indian allotment held under a trust or other patent containing restrictions on alienations may be sold by the allottee with the consent of the Secretary of the Interior and the proceeds thereof shall be paid to the allottee or disposed of for his benefit under regulations to be prescribed by the Secretary of the Interior.

Act of February 14, 1920 (41 Stat. 415 25 U.S.C. 413)

"That hereafter in the sale of all Indian allotments, or in leases, or in assignment of leases, covering trib l or allotted lands for mineral farming, grazing, business or other purpose, on the sale of timber thereon, the Secretary of the Interior be, and he is hereby authorized and directed, under such regulation as he may prescribe, to charge a reasonable fee for the work incident to the sale, leasing, or assigning of such lands, or in the sale of timber, or in the administration of Indian forests, to be paid by vendees, leessees, or assignees, or from the proceeds of sales, the amounts collected to be covered into the Treasury as Miscellaneous Receipts."

Act of September 20, 1922 (42 Stat. 857; 16 U.S.C. 594)

Authorizes the Secretary of the Interior to protect timber on Indian lands from fire, disease or insects.

"That the Secretary of the Interior is hereby authorized to protect and preserve, from fire, disease, or the ravages of beetles, or other insects, timber owned by the United States upon public lands, National Parks, National Monuments, Indian reservations, or other lands under the jurisdiction of the Department of the Interior owned by the United States, either directly or in cooperation with other Departments of the Federal Government, with States, or with owner of timber, and appropriations are hereby authorized to be made for such purposes."

Act of March 1, 1933 (47 Stat. 1417; 25 U.S.C. 413)

Authorizes the Secretary of the Interior to charge a reasonable fee for work performed for Indian tribes or individuals.

Amends act of February 14, 1920 (41 Stat. 415; 25 U.S.C. 413) to read: "the Secretary of the Interior is hereby authorized, in his discretion, and under such rules and regulations as he may prescribe, to collect reasonable fees to cover the cost of any and all work performed for Indian tribes or for individual Indians, to be paid by vendees, lessees, assignees, or deducted from the proceeds of sale, leases or other sources of revenue: PROVIDED, that the amounts so collected shall be covered into the Treasury as Miscellaneous Receipts, except when the expenses of the work are paid from Indian tribal funds, in which event they shall be credited to such funds."

Act of June 18, 1934 (48 Stat. 986; 25 U.S.C. 466)

Directs the Secretary of the Interior to make rules and regulations for the operation and management of Indian forestry units on the principles of sustained-yield management. (Does not apply to any reservation where the Act was not accepted by a majority vote of the Indians.

Sec. 6. The Secretary of the Interior is directed to make rules and regulations for the operation and management of Indian forestry units on the principle of sustained-yield management, to restrict the number of livestock grazed on Indian range units to the estimated charrying capacity of such ranges, and to promulgate such other rules and regulations as may be necessary to protect the range from deterioration, to prevent soil erosion, to assure full utilization of the range, and like purposes.

Act of April 26, 1940 (54 Stat. 168; 16 U.S.C. 594a)

For forest protection against the white pine blister rust, and for other purposes.

Authorizes the Secretary of Agriculture, in cooperation with such agencies as he may deem necessary, to use funds made available for blister rust control on lands irrespective of ownership; provided that in the Secretary's discretion no such expenditure shall be made on private or State lands (unless so intermingled with Federal lands as to make it necessary) until sums at least equal to the Federal expenditure are provided by the State or local government or private organization. Provided, that any control plan shall have prior approval of Federal Agency having jurisdiction, and consent of Indians in case of Indian land. Secretary of Agriculture may allocate blister rust control funds to other Federal agencies for their use and expenditure.

Act of March 29, 1944 (58 Stat. 132; 16 U.S.C. 583-583i)

Authorizes the Secretary of the Interior to establish cooperative sustained-yield units on lands owned or administered by the United States, including Indian lands.

Secretary authorized to enter into cooperative sustained-yeild units on forest lands with other Federal agencies or with private companies. (note; policy has been determined that the Bureau of Indian Affairs will not participate in these units at the present time. (1960)).

Act of June 25, 1948 (62 Stat. 787; 18 U.S.C. 1853)

Provides penalties for unlawfully cutting or wantonly injuring trees on Indian lands.

(1853) "Whoever unlawfully cuts, or wantonly injures or destroys any tree growing, standing, or being upon any land of the United States which, in pursuance of law, has been reserved or purchased by the United States for any public use, or upon any Indian reservation, or lands belonging to or occupied by any tribe of Indians under the authority of the United States, or any Indian allotment while the title to the same shall be held in trust by the Government, or while the same shall remain inalienable by the allottee without the consent of the United States, shall be fined not more than $1,000 or imprisoned not more than one year, or both.

Act of June 25, 1948 (62 Stat. 788; 18 U.S.C. 1855)

Provides penalties for willfully setting fires without authority on Indian lands.

(1855) "Whoever, willfully and without authority, sets on fire any timber, underbrush or grass or other inflamable material * * * upon any Indian reservation or lands belonging to or occupied by any tribe or group of Indians under authority of the United States, or upon any allotment while the title to the same shall be held in trust by the Government, or while the same shall remain inalienable by the allottee without the consent of the United States, shall be fined not more than $5,000 or imprisonment of not more than five years, or both.

Act of July 24, 1947 (61 Stat. 418)

To declare the ownership of the timber on the allotments on the Northern Cheyenne Indian Reservation, and to authorized the sale thereof.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That, notwithstanding the provisions of the Act of June 3, 1926 (44 Stat. 690), the timber on the allotments on the Northern Cheyenne Indian Reservation, whether or not the lands were hitherto classified as chiefly valuable for timber, are hereby declared to be the property of the allottees and may hereafter be sold pursuant to the provisions of section 8 of the Act of June 25,1910 (36 Stat. 857; U. S. C., sec. 406). Nothing contained in this Act shall be construed to require the payment to the allottees of the proceeds of sales made prior to the passage of this Act.

Act of June 25, 1948 (62 Stat. 788; 18 U.S.C. 1856)

Provides penalties for leaving fires unextinguished, or for allowing fires to spread, on Indian lands.

(1856) "Whoever, having kindled or caused to be kindled, a fire in or near any forest, timber, or other inflamable material upon any lands * * * including any Indian reservation or lands belonging to or occupied by any tribe or group of Indians under the authority of the United States or any Indian allotment while the same shall remain inalienable by the allottee without the consent of the United States, leaves said fire without totally extinguishing the same, or permits or suffers said fire to burn or spread beyond his control, or leaves or suffers said fire to burn unattended, shall be fined not more than $500 or imprisoned not more than six months, or both.

Act of July 30, 1956 (70 Stat. 721; 25 U.S.C. 407d)

Authorizes the Secretary of the Interior to charge purchasers of Indian timber for special services requested by the purchasers in connection with scaling, marking, or other activities under the timber sale contract.

"That the Secretary of the Interior is authorized to charge purchasers of timber on Indian lands that are held by the United States in trust, or that are subject to restrictions against alienation or encumberance imposed by the United States, for special services requested by the purchasers in connection with scaling, timber marking, or other activities under the contract of purchaser that are in addition to the services otherwise provided by the Secretary, and the proceeds derived therefrom shall be deposited to the credit of the appropriation from which the special services were or will be provided."

Department of the Interior,

Washington, May 19, 1882.

HON. HIRAM PRICE,

Commissioner of Indian Affairs.

SIR:

I have your letter of the 18th ultimo asking that I approve of the application of Agent Crissey of the Sissetou Agency to allow the Indians on that reservation to cut dead and fallen timber and to sell the same. The Indians of that agency hold their reservation by virtue of a treaty made with the United States in 1867. It is recited in the treaty that in consideration of certain cessions made by the Indians to the United States, and the faithful conduct of the Indians, the Government set apart the reservation for the use of said Indians as a permanent home.

It is not claimed, however, that these Indians hold by other and different title from other Indians who occupy their reservations by treaty stipulations.

The fee to the reservation is in the Government, and the right of the Indians to the occupation thereof is as unquestioned as the right of the Government to the fee. In such occupation they can not be disturbed by the Government save through its legislative department; and it ought not to be supposed that such occupation will be interfered with without the consent of the Indians, unless by misconduct on their part the right to occupy should be lost.

It appears that it was the intention of the Government to give the Indians a permanent home on the reservation, reserving to itself the fee, with the right to dispose of it should the Indians abandon it. The Government, then, has no right to complain of the character of the Indian occupation unless they commit waste. What is waste must always depend upon the character of the holding as well as the acts complained of. It was held by the Supreme Court of the United States, in the case of the United States *vs.* Cook, (19 Wallace, 591,) that the cutting of pine trees and selling the logs was waste; but the court declared that if the trees had been cut for the improvement of the estate it would not have been waste.

Can it be said to be waste to cut even for purpose of sale, then, the dead and fallen timber on Indian reservations? I think not. It is true that it has been repeatedly held that the timber cast down by the winds belongs to the lessor and not to the lessee, yet the relation of lessor and lessee does not exist between the Government and the Indians on the reservation, and it must be held that the Indians have the right to use the entire products of such reservation so they do not commit waste; and what might be waste if done by a tenant may not be waste if done by an individual Indian or by the tribe.

If the Indians will cut, haul, and sell the dead and fallen timber on the reservation it will be a benefit to them, not counting alone the money value to be received from the sale of said dead and fallen timber, but they will thereby acquire some of the habits of industry so essential to their future prosperity, if not to their very existence. You will, therefore, instruct the agents of the various agencies where timber is found growing, that no live trees are to be cut except for use on the reservation, except on individual allotments; but that dead and fallen timber may be cut, and if not needed for the use of the Indians on the reservation, may be sold.

Very respectfully,

H. M. TELLER,

Secretary.

(2719—100.)

Department of the Interior,

OFFICE OF INDIAN AFFAIRS,

Washington, D. C., January 30, 1890.

To Indian Agents and
Superintendents of Indian Schools.

It is important that the Indians under your supervision be properly instructed as to the value of forest and fruit tree culture. With this purpose in view, and to stimulate them in this direction, you will designate a day to be known and observed as Arbor Day, the date to be that best suited to the climate of the locality in which your reservation or school is situated. On that day you will encourage every child, so far as practicable, to plant one or more fruit, ornamental, or forest trees. Suitable exercises should be had bearing upon the value and importance of tree culture, and everything should be done to awaken as deep and intelligent an interest as possible in the minds of both parents and pupils with reference to that subject.

You will submit estimates for a sufficient number of trees to accomplish the purpose. If it is not practicable to have each child plant a tree, each class may be interested in one or more trees.

You will advise this Office what day has been selected as Arbor Day, and after the day has passed you will report to this Office how it was celebrated, inclosing a program of the exercises and giving such suggestions as may occur to you in regard to the future observance of such occasions.

Interest may be added to these occasions by giving names to the trees planted. When each child plants a tree it may be known as belonging to him. When trees are planted by classes they may be known by the name and year of the class, and when only a few trees are planted they may be given the names of Indians whom the children would be gratified thus to honor.

After the trees are planted the children must be required to care for them and instructed as to proper methods of tree culture, and it must be made the duty of some one to see that the trees are not neglected, but that they are watered, protected from injury by persons or animals, mulched, wrapped, fastened to supports, etc., as the location and circumstances may demand.

Respectfully,

J. J. Morgan

Commissioner.

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U.S. Bureau
OFFICE OF INDIAN AFFAIRS

REGULATIONS AND INSTRUCTIONS

FOR OFFICERS IN CHARGE OF

FORESTS ON INDIAN RESERVATIONS

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REGULATIONS AND INSTRUCTIONS FOR OFFICERS IN CHARGE OF FORESTS ON INDIAN RESERVATIONS.

Section 1.--The superintendent of each reservation will be expected and required to do all in his power to secure a wise and advantageous use of forest resources. As the direct representative of the Commissioner of Indian Affairs upon the reservation, he must be held responsible for all forestry work thereon.

Section 2.--On reservation where a special officer is stationed the superintendent will delegate to him the direct supervision of the guards, forest and mill employees, and others engaged in forestry work. These officers will consult with the superintendents upon all important matters, and the superintendents will support them, under ordinary circumstances, in all acts of administration. They shall submit reports to the superintendent, as required by him, and to the Commissioner of Indian Affairs, through the superintendent, when requested. They shall thoroughly familiarize themselves with all phases of forestry work on the reservations to which they are assigned, including a knowledge of boundaries, of the number of acres of timber land, of the total stand of timber, of the

relative quantity, rapidity of growth, seeding qualities, character of reproduction, adaptability to location, etc., of the different species found. They must also acquaint themselves with the cost of logging and manufacture under different systems, local markets and the possibilities of developing the same, and all other practical and technical work which will aid the office in so managing the Indian forests as to obtain the greatest revenue for the Indians consistent with a proper protection and improvement of the forests.

Section 3. Forest guards shall perform their duties under the direction of the special forest officer stationed upon the reservation, or under the superintendent. They shall patrol their districts to prevent and report trespass, fires, violation of agreements by those conducting timber operations, the commission of waste by the Indians or others, and perform other duties as directed, among which may be work in the building of improvements of various kinds, such as telephone lines, roads, trails, and fire lines for the proper protection and administration of the forests. Under the direction of the forest officer in charge, or the superintendent, they shall perform the duties of line riders and stockmen in exercising a proper control of grazing. Wherever a forest officer is in charge the guards shall be selected by him with the advice and approval of the superintendent, and it shall be his duty to recommend the discharge of any inefficient guard.

Section 4.—It shall be the duty of the Indian police to prevent and suppress forest and grass fires as far as possible, and failure on their part to perform such

duties, or to report promptly any fire which they can not control, will constitute sufficient cause for dismissal. At times of unusual fire danger the superintendent should detail the police to special patrol for the prevention of fire.

TRESPASS ON INDIAN TIMBERLANDS.

Section 5.—The act of June 25, 1910 (36 Stat. L., 855–857), entitled "An act to provide for determining the heirs of deceased Indians, for the disposition and the sale of allotments of deceased Indians, for the leasing of allotments, and for other purposes," provides:

> SEC. 6. That section 50 of the act entitled "An act to codify, revise, and amend the penal laws of the United States," approved March 4, 1909 (35 U. S. Stat. L., p. 1098), is hereby amended so as to read:
>
> "SEC. 50. Whoever shall unlawfully cut, or aid in unlawfully cutting, or shall wantonly injure or destroy, or procure to be wantonly injured or destroyed, any tree, growing, standing, or being upon any land of the United States, which, in pursuance of law, has been reserved or purchased by the United States for any public use, or upon any Indian reservation or lands belonging to or occupied by any tribe of Indians under the authority of the United States, or any Indian allotment while the title to the same shall be held in trust by the Government, or while the same shall remain inalienable by the allottee without the consent of the United States, shall be fined not more than $500, or imprisoned not more than one year, or both.

All forest officers shall report promptly in writing to the superintendent any violation of this law of which they learn. Superintendents shall seize all timber unlawfully cut from Indian land, mark the same, forbid its removal, and promptly report to the Commis-

sioner of Indian Affairs the name and post-office address of the trespasser. They should also report the names and post-office addresses of all witnesses of such depredations, so that if necessary the cases may be reported to the Department of Justice for the institution of a civil action for the recovery of damages, a criminal prosecution under the provisions of the act above cited, or the commencement of both civil and criminal actions. In investigating and reporting all cases of trespass an especial effort must be made to secure all evidence possible immediately after the discovery of the trespass. If the trespass appears to have been unintentionally committed the superintendent should ascertain what terms of settlement may be made and submit his report to the office for instructions.

FIRE LAW AND PENALTY.

Section 6. Section 6 of the act of June 25, 1910 (36 Stat. L., 855–857), also provides that section 53 of the act of March 4, 1909 (35 Stat. L., 1098), be amended so as to read:

Sec. 53. Whoever shall build a fire in or near any forest, timber, or other inflammable material upon the public domain, or upon any Indian reservation, or lands belonging to or occupied by any tribe of Indians under the authority of the United States, or upon any Indian allotment while the title to the same shall be held in trust by the Government, or while the same shall remain inalienable by the allottee without the consent of the United States, shall, before leaving said fire, totally extinguish the same; and whoever shall fail to do so shall be fined not more than one thousand dollars, or imprisoned not more than one year, or both.

Forest officers should use all diligence in the detection of parties guilty of a violation of this act. Each superintendent or forest officer in charge is responsible for the division of his Indian forest into patrol districts and the assignment of guards to each district. Guards must use every possible effort to extinguish every fire of which they have knowledge, and must immediately investigate every one of which they are informed. During dry and dangerous periods the selection of headquarters, camping places, and routes should be made with the single object of preventing and discovering fires. Fires caused by lightning are not rare, especially in dry mountain regions. After every electric storm a special effort should be made to locate and extinguish any such fires before they are well under way.

Section 7. Small fires extinguished without difficulty by the officer who discovers them may be reported to the superintendent at the end of the month. Large fires requiring help from other guards or Indians, or attendance for several days, should be reported immediately to the superintendent or forest officer in charge. If help is needed the superintendent should get it at once, and telegraph the Commissioner of Indian Affairs if any amount in excess of $300 is required. He will also notify the Commissioner of Indian Affairs as soon as the total cost of any fire requiring extra help and expense is ascertained. Every superintendent is authorized, in person or through a subordinate, to hire temporary men, purchase tools and supplies, and pay for their transportation from place to place to extin-

guish a fire. No expense for fighting a fire outside a reservation must be incurred unless the fire threatens the reservation. Fire fighters should be paid by the hour, actual working time, at the current local rates. The time consumed in going to and from the fire may be included. While the Indian Office is doing its utmost to prevent and fight fires, only a limited amount of money is available for this purpose. Consequently it must be kept in mind that a fire which can not be controlled by from 20 to 40 men will run away from 100 or even more men, since heat and smoke in such cases make a direct fight impossible. Useless expense must not be incurred. On or before the fifth day of each month every superintendent will fill out and mail to the office his monthly fire report (Form No. 5–180). On or before January 1 of each year the superintendent will submit an annual report on fires (Form No. 5–183) covering the 12 months ending December 31. This report should be accompanied by a small scale map of the forest, showing the location of all areas burned over during the year.

USE AND SALE OF TIMBER.

Section 8. The act of Congress approved June 25, 1910 (36 Stat. L., 855–857), further provides:

Sec. 7. That the mature living and dead and down timber on unallotted lands of any Indian reservation may be sold under regulations to be prescribed by the Secretary of the Interior and the proceeds from such sales shall be used for the benefit of the Indians of the reservation in such manner as he may direct: *Provided*, That this section shall not apply to the States of Minnesota and Wisconsin.

Sec. 8. That the timber on any Indian allotment held under a trust or other patent containing restrictions on alienations, may be sold by the allottee with the consent of the Secretary of the Interior, and the proceeds thereof shall be paid to the allottee or disposed of for his benefit under regulations to be prescribed by the Secretary of the Interior.

In all sales from either unallotted land or from allotments the approval by the superintendent, or by the Commissioner of Indian Affairs of any permit, proposal or contract made in accordance with the following regulations, shall operate as the specific consent of the Secretary of the Interior to the sale and removal of the timber covered thereby.

Section 9. Large sales of timber will be made from unallotted lands as occasions arise. Such sales will receive special consideration, and a regular contract will be executed, accompanied by a bond when necessary. However, small operations should be allowed in order to meet the needs of the Indians or to satisfy the requirements of white persons living upon reservations or of settlers living in the vicinity of the same. In some of these cases a charge should be made for the timber removed and in other instances no charge should be made. The course to be pursued will vary to some extent with the conditions on each reservation, and the circumstances of each individual case, but the general policy to be followed by the superintendent should accord with the following principles:

(*a*) No charge should be made to Indians for dead or living timber taken from unallotted lands for personal use. A stumpage charge, fixed with a view to

the encouragement of Indians in habits of thrift and improvement of the condition of the forest, should be made to Indians removing dead timber from unallotted lands for sale. The full stumpage value should be charged to Indians removing living timber from unallotted lands for sale.

(b) A small stumpage charge should be made to persons other than Indians for dead timber removed from unallotted land for personal use. The full stumpage value should be charged such persons for either living or dead timber removed from unallotted lands for sale.

Where the amount of timber available is no greater than is needed by the Indians, no sales should be made. All expenses connected with the sale of timber from unallotted lands may be paid from the proceeds of the sale, but the net proceeds shall be deposited as "Indian Moneys—Proceeds of Labor." The gross proceeds must be taken up in the superintendent's account as "Miscellaneous receipts, class 3."

Section 10.—Extensive timber operations upon allotments will be conducted only under special permission from the Commissioner of Indian Affairs or the Secretary of the Interior. Small sales may be made with the permission of the superintendent. Except as provided in section 11 all sales from allotments should be made through the superintendent, and a proper percentage of the proceeds may be deducted to cover the expenses connected with the sale. The net proceeds should be devoted to the improvement of the allotment or deposited to the credit of the allottee as "Individual

Indian money." The gross proceeds received from such sale shall be taken up and accounted for by the superintendent under the same caption. The net proceeds of such sales, not exceeding $25 at any one time, nor $100 in any one month, may be paid to the allottee in cash in the discretion of the superintendent. The property of minors must be jealously guarded during their minority. It will be the general policy of the office to permit the sale of timber from allotments of minors only to meet the necessities of life, to afford the means of an education, or to improve the productive value of the land for agricultural or timber crops. Upon allotments of both minors and adults woodlots must be reserved wherever practicable. Upon areas not adapted to agriculture, where because of the slope a forest covering is needed, where the leaving of a second crop of timber is desirable, where the permanent maintenance of a woodlot is essential, and where any other conditions demand it, the merchantable trees necessary to accomplish the end in view should be reserved from sale. Extensive clear cutting should be permitted only where the land will be utilized for agricultural purposes.

Section 11.—Superintendents will insist that all timber cutting, not done under a formal contract, upon either unallotted lands or allotments by Indians or others, shall be done under the regular permit (Form No. 5-924) and will impress upon permittees the importance of preserving the permit form as evidence of their right to cut and remove timber. It is advisable that separate permit books be used for operations on

unallotted lands and on allotments in order that data for the superintendent's quarterly timber report (Form No. 5-481) and annual report (Form No. 5-486) may be readily abstracted. On reservations of limited extent the permit should be issued from the agency office only. On large reservations permits may also be issued by subagents, or other officials, as may be found most convenient. Each quarterly and annual report by the superintendent must include the timber cut under all permits issued on the reservation. The same permit form will be used by the superintendent in allowing Indians to clear portions of their allotments for agricultural purposes. A complete record of such clearings must be kept in the permit book. Permit form (5-924) will be used only where the stumpage value of the timber to be removed from either unallotted lands or allotments is less than $25. In the discretion of the superintendent the value of the timber, not exceeding $25 in any one year, cut from an allotment under a permit, or permits, may be paid directly to the allottee by the purchaser and not be taken up in the superintendent's accounts. The permit form was devised as a convenience in meeting the requirements of Indians and other persons for limited quantities of timber for domestic, agricultural, and grazing purposes. It must not be used as a substitute for the regular timber contracts.

Section 12.—For sales of timber of a stumpage value greater than $25 the regular contract forms (Form No. 5-487 for unallotted lands and Form No. 5-489 for allotments) must be used. No sale of timber from

either tribal lands or from an allotment of a stumpage value greater than $25 shall be effected until an examination of the timber to be sold shall have been made and a written recommendation of the sale submitted by the examiner, including an appraisal of the value of the timber, an exact description of the proposed sale area, and if possible a map showing all essential or important information. In all sales in which the stumpage value of the timber is greater than $250 the contracts must be forwarded to Washington for approval. In sales of timber of a stumpage value not exceeding $250 the contracts may be made by the superintendent on unallotted lands or approved by him for sales from allotments, but two copies of each contract signed or approved by the superintendent must be mailed immediately to the Commissioner of Indian Affairs.

Section 13.—Open-market sales of timber not exceeding $100 each in stumpage value may be made from unallotted lands by the superintendent, but the total stumpage value of timber thus sold to any one individual, firm, or corporation in any one year shall not exceed $1,000.

Section 14.—Open-market sales of timber not exceeding a total of $100 in stumpage value in any one year may be made from any Indian allotment with the approval of the superintendent having jurisdiction thereover.

Section 15.—All sales of timber of a stumpage value greater than $100 shall be made only after due advertisement. If the stumpage value of the timber offered

does not exceed $1,000 the advertisement may be made by posters and circular letters, and the sale may be made at auction or under sealed proposals. If the stumpage value exceeds $1,000 the advertisement must be made in at least two newspapers of general circulation in the State where the timber is situated, and sealed proposals must be received if the value exceeds $5,000. For sales in which the stumpage value of the timber does not exceed $5,000 the advertisement shall be for not less than 30 days; for sales exceeding $5,000 but not over $50,000, not less than 60 days; and for all sales exceeding $50,000, not less than 90 days.

Section 16.—Timber which has been duly advertised for sale at public auction or under sealed proposals may be sold in open market for not less than the appraised value at any time within one year from the date of the auction or the last day on which bids were to be received as defined in the advertisement.

Section 17.—Sales in which the stumpage value of the timber does not exceed $50,000 may be made from unallotted land by the Commissioner of Indian Affairs or from allotments with his approval. Sales in which the stumpage value exceeds $50,000 shall be made only with the express approval of the Secretary of the Interior.

Section 18.—A deposit of 10 per cent of the estimated value of the timber advertised shall be submitted with each proposal for timber not exceeding $5,000 in value, and a deposit of 5 per cent with each proposal for timber of a stumpage value exceeding $5,000 but not exceeding $50,000. The amount of the deposit to be

required in sales exceeding $50,000 shall be determined at the time of each advertisement. Every deposit in excess of $500 must be in the form of a duly certified check on a solvent national bank, drawn payable to the order of the superintendent having jurisdiction over the timber. Smaller deposits may be in cash, or a duly certified check as required by the advertisement. A deposit of 10 per cent of the estimated value of the timber sold will be required of the successful bidder, at the time of the sale, when timber is sold at auction. These deposits are required as a guaranty of good faith, and when a bond is not executed the deposit of the successful bidder will be retained until the contract is completed. In the final settlement under the contract the deposit will be credited if the successful bidder has fully complied with the terms of his proposal and the contract, as a portion of the whole amount due for the timber purchased. If a bond is furnished and accepted, the deposit may be credited as a first installment in payment for the timber. The cash or certified checks deposited will be returned to depositors whose proposals are not accepted.

Section 19.—In all sales payments for timber will be required in advance of cutting, either as a single payment or in the form of installments. In sales of a stumpage value not exceeding $100, the number of installments shall not exceed 4; in sales of a value exceeding $100 but not over $5,000, the number of installments shall not exceed 10; and in sales of a value greater than $5,000, but not over $50,000, the number of install-

ments shall not exceed 20. In sales in which the stumpage value exceeds $50,000, the amount of the required deposits shall be determined at the time of each sale, but shall not be less than $2,500 each.

Section 20.—In sales in which the stumpage value of the timber does not exceed $5,000 no bond will be required; in sales in which the value exceeds $5,000, but is not over $50,000, a bond may be required in the discretion of the Commissioner of Indian Affairs and of an amount to be fixed by him; in sales in which the stumpage value exceeds $50,000, a bond will be required in an amount to be fixed by the Secretary of the Interior.

Section 21.—In all sales of timber from either unallotted or allotted lands the amount deducted from the proceeds to meet the expenses connected with the sale should be sufficient to cover the cost of examination, supervision, scaling, collecting, caring for the brush and protecting from fire the timber and young growth left standing. The amount required for all such expenses must be determined to a large extent from experience, and may be a percentage of the receipts or a certain rate per thousand feet of timber cut.

Section 22.—The maximum periods which shall be allowed after the date of the contract for the cutting and removal of the timber purchased shall be as follows: For sales of $1,000 stumpage value, or less, one year; for sales over $1,000, but not exceeding $5,000, two years; for sales over $5,000, but not exceeding $50,000, five years; for sales exceeding $50,000, the number of years fixed in the advertisement. However,

the cutting and removal of any amount shall not be so distributed over the allowed period as to render the cost of supervision unreasonably high.

Section 23.—The right of the superintendent, the Commissioner of Indian Affairs, or the Secretary of the Interior to waive technical defects in advertisements and proposals and to reject any and all proposals shall be reserved in all cases according as each has authority to make sales.

Section 24.—All contracts for the sale of timber from unallotted lands or from allotments must be executed in quadruplicate. If the sale is for timber of such a value that the contract can not be made or approved by the superintendent all copies must be forwarded to the Commissioner of Indian Affairs. If the contracts are approved by the Commissioner or by the Secretary of the Interior, one copy will be retained in the Indian Office, one copy filed in the auditor's office, and two copies returned to the superintendent. A copy must be kept in the agency file, and the fourth copy should be given to the contractor. If the contract is for the sale of timber from an allotment it should be executed in quintuplicate, in order that a copy may be available for presentation to the allottee upon request.

SALE OF TIMBER OF MINORS.

Section 25.—A contract for the sale of the timber on the allotment of a minor under the act of June 25, 1910, must be signed by the father, mother, superintendent, or other officer in charge of the agency, in the order

named. In timber sales from allotments the same precaution for the future interests of the minor should be observed as a court of chancery or guardianship would exercise in authorizing the conversion of the property of a minor into another form, or the use of the principal for necessities. Such sales will never be approved as a matter of course, but in all cases must be thoroughly considered and most carefully supervised.

SPECIAL REQUIREMENTS OF CONTRACTS.

Section 26.—The allowable height of stumps should usually be fixed at 10, 12, 14, 16, or 18 inches and should never exceed the diameter of the tree at the top of the stump, unless the trees are excessively swell-butted or both badly and generally affected with shake. Where the trees are small the maximum stump height may be fixed at less than 18 inches. The maximum diameter of the base of tops should be fixed so as to utilize all timber which may be taken without loss by the use of methods of logging and utilization which are economical and feasible. Wherever the market conditions and the kind of timber being cut will permit, all trees should be utilized to a diameter of 6 inches in the tops. If still smaller timber is merchantable the purchaser should be required to take it and pay for it.

Section 27.—The general minimum diameter limits to which trees will be cut as stipulated in the contract will vary greatly with local conditions, but upon lands which are to be kept as timber lands should be such as to leave sufficient seed trees in all cases, and in most

instances such as to leave 20 to 30 per cent of the merchantable stand as a basis for future timber crops.

Section 28.—Ordinarily the brush should be piled at the time of cutting and burned either as piled or as soon thereafter as it can be conveniently done. A good time to burn brush which has accumulated during the summer or lain over from the previous winter's logging is directly after the first fall of snow in the autumn. Where there is a special danger of soil erosion, or where on a steep slope or in a dry locality a soil covering is needed to insure reproduction, the brush may be scattered. Occasionally the burning of brush will be impracticable because of the density of the stand of timber which is not cut. The piling and burning of the brush should be insisted upon in all cases where there is any substantial doubt as to the method of disposal which should be used. Superintendents and special forest officers in charge of timber operations are particularly cautioned that the careful consideration of such questions and the strictest supervision of brush disposal, to the end that fire danger is reduced to the minimum, will be required by the office.

MARKING.

Section 29.—When standing timber is marked for cutting, the letters "U. S." should be stamped low enough on the tree to appear clearly on the stump after the tree is cut. Where snow may conceal the marking from the cutters, each tree must also be marked at a point several feet from the ground. Witness trees or

any tree blazed to mark the line of any Government survey should never be marked or otherwise designated for cutting. (Act of June 10, 1896, 29 Stat. L., 321.) All mature and over-mature trees and merchantable trees of undesirable species should be marked. Unless needed for seed, all trees which show defects such as punk knots, spike tops, bad crooks, low forks, fire scars, cat-faces, or frost cracks, should be marked. The officer doing the marking should not be unreasonable in requiring purchasers to take defective trees, but as a general rule those which will yield one merchantable log should be marked. Poorly crowned or crowded trees of any usable size should be marked. Thrifty, young, rapidly growing trees of desirable species should not be marked even if they have a diameter larger than the minimum stated in the contract. Where the danger of windfall, or the need for protection of the soil from erosion is great, the number of trees marked for removal should be very limited. Each tree left should have its crown free enough for vigorous growth. As a rule trees left for seed should be young trees which will yield good lumber in the future. In mixed forests all seed trees should be of the more valuable species. If there is danger that fire will run over the cutting area, enough trees should be left to seed the ground fully even though reproduction is present at the time of the cutting. To give good results, seed trees of most species should not be farther apart than twice their height, and should be evenly distributed over the cutting area. On the edge of openings, such as old burns, seed trees should be left

on the side from which the prevailing winds blow. Isolated, thrifty trees of desirable species should be marked only when it is evident that this species will not grow well on that particular situation. The marker should first decide which trees are to be left and then mark the trees to be removed. Doubt whether a tree should be left for seed or protection should be resolved in favor of leaving, and a defective tree should be marked if there is doubt as to its being classed as merchantable. When dead timber is to be cut, the boundary of the cutting area may be marked and the marking of individual trees omitted. If for any reason trees within such an area are to be reserved from cutting they should be marked.

SCALING.

Section 30.—All saw timber should be scaled. Each log must be numbered with crayon. The number should be the same as that opposite which the scale of the log is recorded in the scale book. The logs in all skidways must be counted and the number in each checked with the entries in the scale book. Diameters of logs will be measured at the small end inside the bark and the scale recorded which corresponds with the nearest inch above or below the actual diameter. Logs which are not round should be scaled on the average diameter. Proper deductions should be made for defects in logs, but no deduction for curves or sweep should be made in scaling lengths which exceed 16 feet. Logs and other timber so defective as to be absolutely worthless should not be stamped. Unsound or crooked logs should be

scaled down to the actual contents of merchantable material. All partially unsound but merchantable timber must be scaled, whether removed or not, wherever the merchantable material in the same will pay for the sawing. The scale book is Form 3-923.

Section 31.—The purchasers may be required to skid logs, to mark the top ends, and place them even in the pile, and to skid logs of different lengths in separate piles as shall be necessary for convenient scaling. Log lengths should be accurately measured at frequent intervals to insure that they do not overrun the 8 extra inches allowed for trimming. Logs should be skidded for scaling if the cost of scaling will be materially decreased by this requirement.

Section 32.—The Scribner "Decimal C" log rule shall be used in scaling. This rule drops the units and gives the contents of a log in the nearest number of tens. Thus, the contents of a 16-foot log 12 inches in diameter, which is 79 board feet according to Scribner's computation, is evened off to 80 and given as 8; the 303 board feet in a 24-inch log 12 feet long are rounded off to 300 and appear as 30 in the table. The total scale of a log in board feet is obtained by multiplying by 10 the number read from the scale stick. The Scribner "Decimal C" log rule for logs from 6 to 16 feet in length and from 6 to 120 inches in diameter is as follows:

Scribner Log Rule.

[Decimal "C."]

Diameter.	Length (feet).						Diameter.
	6	8	10	12	14	16	
Inches.	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Inches.*
6	0.5	0.5	1	1	1	1	6
7	0.5	1	1	1	1	1	7
8	1	1	1	2	2	2	8
9	1	2	2	2	2	3	9
10	2	2	2	3	3	4	10
11	2	3	3	4	4	5	11
12	3	4	4	5	6	7	12
13	4	5	6	7	8	9	13
14	4	6	7	8	10	11	14
15	5	7	8	11	12	14	15
16	6	8	10	13	14	16	16
17	7	9	11	14	16	19	17
18	8	11	13	16	19	21	18
19	9	12	15	19	21	24	19
20	11	14	17	21	24	28	20
21	12	15	19	23	27	31	21
22	13	17	21	25	29	33	22
23	14	19	23	28	32	37	23
24	15	21	25	30	35	40	24
25	17	23	28	34	40	46	25
26	19	25	31	37	44	50	26
27	21	27	34	41	48	55	27
28	23	29	38	44	51	59	28
29	25	31	40	48	57	65	29
30	27	34	44	53	63	73	30
31	29	37	48	58	68	78	31
32	31	40	52	62	74	85	32
33	34	43	56	67	80	92	33
34	36	46	60	72	86	99	34
35	39	50	65	78	93	107	35
36	42	54	70	84	100	115	36
37	45	58	75	90	108	124	37
38	48	62	81	97	116	133	38
39	51	66	87	104	125	143	39
40	55	71	93	112	134	154	40
41	59	76	100	120	144	165	41
42	63	81	107	128	154	177	42
43	67	87	114	137	164	189	43
44	71	93	122	146	176	202	44
45	76	99	130	156	187	215	45

Scribner Log Rule—Continued.

[Decimal "C."]

Diameter.	Length (feet).						Diameter.
	6	8	10	12	14	16	
Inches.	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Inches.*
46	80	105	138	165	198	228	46
47	85	111	146	175	210	242	47
48	90	118	155	186	223	257	48
49	95	125	164	197	236	272	49
50	101	133	174	209	250	288	50
51	107	141	185	222	266	306	51
52	113	149	196	235	282	324	52
53	120	158	207	249	298	343	53
54	126	167	219	263	316	363	54
55	133	176	231	277	333	383	55
56	140	186	243	292	351	404	56
57	147	195	256	307	369	425	57
58	154	205	269	323	388	446	58
59	162	215	282	339	407	468	59
60	170	225	296	355	427	491	60
61	178	236	310	372	447	514	61
62	186	247	324	389	468	538	62
63	195	258	339	407	489	562	63
64	203	269	354	425	511	587	64
65	212	281	370	444	533	613	65

Scribner Log Rule—Continued.

[Decimal "C."]

Diameter.	Length (feet).						Diameter.
	6	8	10	12	14	16	
Inches.	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Inches.*
66	221	293	386	464	556	639	66
67	231	306	403	484	580	667	67
68	240	318	419	503	604	694	68
69	251	331	436	523	628	722	69
70	261	344	453	544	653	751	70
71	271	358	471	565	679	780	71
72	281	372	489	587	705	810	72
73	292	386	508	609	732	841	73
74	303	401	527	632	760	873	74
75	314	416	547	656	788	906	75
76	325	431	567	680	817	939	76
77	337	446	587	704	846	972	77
78	349	462	608	729	876	1,006	78
79	361	478	629	754	906	1,041	79
80	373	494	650	780	937	1,076	80
81	386	511	672	806	968	1,112	81
82	399	528	694	833	1,000	1,149	82
83	412	545	717	860	1,033	1,186	83
84	426	563	740	888	1,066	1,224	84
85	439	581	764	917	1,100	1,263	85
86	453	599	788	946	1,135	1,303	86
87	467	618	813	975	1,170	1,344	87
88	482	637	838	1,005	1,206	1,385	88
89	496	656	863	1,036	1,243	1,427	89
90	511	676	889	1,067	1,280	1,470	90
91	526	696	915	1,098	1,318	1,513	91
92	541	716	942	1,130	1,357	1,557	92
93	557	737	969	1,163	1,396	1,602	93
94	573	758	997	1,196	1,436	1,648	94
95	589	779	1,025	1,230	1,476	1,694	95
96	605	801	1,053	1,264	1,517	1,741	96
97	622	823	1,082	1,298	1,558	1,788	97
98	639	845	1,111	1,333	1,600	1,836	98
99	656	868	1,141	1,369	1,642	1,885	99
100	673	891	1,171	1,405	1,686	1,935	100
101	691	914	1,202	1,442	1,730	1,986	101
102	709	938	1,233	1,479	1,775	2,037	102
103	727	962	1,265	1,517	1,820	2,089	103
104	745	986	1,297	1,556	1,866	2,142	104
105	764	1,011	1,329	1,595	1,913	2,196	105
106	783	1,036	1,362	1,635	1,960	2,250	106
107	802	1,061	1,396	1,675	2,008	2,305	107
108	822	1,087	1,430	1,716	2,057	2,361	108
109	841	1,113	1,464	1,757	2,107	2,418	109
110	861	1,139	1,499	1,799	2,157	2,476	110
111	882	1,166	1,534	1,841	2,208	2,534	111
112	902	1,193	1,570	1,883	2,259	2,594	112
113	923	1,220	1,606	1,926	2,311	2,654	113
114	944	1,248	1,642	1,970	2,364	2,715	114
115	965	1,276	1,679	2,014	2,417	2,777	115
116	986	1,304	1,716	2,058	2,471	2,839	116
117	1,008	1,333	1,754	2,103	2,526	2,902	117
118	1,030	1,362	1,792	2,149	2,581	2,966	118
119	1,052	1,391	1,830	2,195	2,636	3,030	119
120	1,075	1,421	1,869	2,242	2,692	3,095	120

Section 33.—In all ordinary sales the maximum scaling length of logs shall be 16 feet. No scaling lengths

In excess of 16 feet shall be allowed under any circumstances without the special permission of the Commissioner of Indian Affairs. If a log exceeds 16 feet in length it will be scaled as two or more logs, in lengths not less than 12 feet where practicable. The following table shows how the lengths should be divided in the scaling of logs 18 to 60 feet long. The number of inches to be added to the diameter, at the points of division made for scaling purposes from the top toward the butt of a long log to allow for taper, is placed under each length.

Total length.	Log lengths.				Total length.	Log lengths.			
Feet.	Butt log.	Second log.	Third log.	Top log.	Feet.	Butt log.	Second log.	Third log.	Top log.
18	16"			9"	40	16"	12"		12"
Increase	1"			0"	Increase	0"	1"		0"
20	16"			10"	42	16"	12"		12"
Increase	1"			0"	Increase	0"	1"		0"
22	16"			10"	44	16"	12"		12"
Increase	1"			0"	Increase	0"	1"		0"
24	16"			10"	46	16"	12"		12"
Increase	1"			0"	Increase	0"	1"		0"
26	16"			12"	48	16"	12"		12"
Increase	1"			0"	Increase	0"	1"		0"
28	16"			12"	50	16"	12"	12"	12"
Increase	1"			0"	Increase	0"	1"	1"	0"
30	16"			12"	52	16"	12"	12"	12"
Increase	1"			0"	Increase	0"	1"	1"	0"
32	16"			12"	54	16"	12"	12"	12"
Increase	1"			0"	Increase	0"	1"	1"	0"
34	16"	12"		12"	56	16"	12"	12"	12"
Increase	1"	1"		0"	Increase	0"	1"	1"	0"
36	16"	12"		12"	58	16"	12"	12"	12"
Increase	1"	1"		0"	Increase	0"	1"	1"	0"
38	16"	12"		12"	60	16"	12"	12"	12"
Increase	1"	1"		0"	Increase	0"	1"	1"	0"

For example, a 42-foot log, 10 inches in diameter at the top, would be scaled as:

One 12-foot log with a diameter of 16 inches.
One 14-foot log with a diameter of 17 inches.
One 16-foot log with a diameter of 19 inches.

This table is intended only as a guide. The allowance for taper should be varied to conform to the actual taper.

Section 34.—When scaled each stick of saw logs, timbers, ties, posts, poles, piles, or stulls must be stamped "U. S." on at least one end. Cordwood must be stamped at both top and bottom of each pile and on at least 10 pieces in each cord. In the absence of a scale stick or where the position of the logs in piles makes the use of a scale stick difficult, the diameters and lengths of the logs or poles may be tallied and the contents figured from a scale table later. Ties may be actually scaled, or they may be counted and the number multiplied by the average contents. Ordinarily 8-foot, standard face ties may be rated at 33⅓ board-feet each, or 30 ties to the one thousand feet; 8-foot second-class ties and 6-foot standard-face ties may be rated at 25 board-feet each, or 40 ties to the thousand feet. Shaks and shingle bolt material may be measured either by the cord or by the thousand-feet board measure. Poles, posts, piles, etc., may be scaled, sold by the linear foot or by the piece as circumstances make advisable. The equivalent in board-feet of a cord of wood will vary from 500 to 700. A cubic foot of round timber contains from 6 to 8 board feet of sawn lumber. Twelve board feet of lumber equal 1 cubic foot. An ordinary

fence post may be considered equivalent to 5 board feet or 1¼ cubic feet, and an ordinary telephone pole to 60 board feet, or 10 cubic feet. Five laths equal 1 board foot and 60 laths 1 cubic foot, while 10 shingles equal 1 board foot and 1,000 shingles about 9 cubic feet.

AGENCY SAWMILLS.

Section 35.—The agency sawmill has important possibilities as a means of training Indians in habits of work, as an incentive to improved housing conditions and other improvements on allotments, and as a source of revenue for the general uplift of the tribe. The gratuitous issue of lumber should be restricted to indigent Indians whose circumstances are such as to make it impossible for them to earn their own living. The cost of sawing timber, cut from allotments, should be paid by the Indians for whom the sawing is done, and both the stumpage value and the cost of sawing should be covered by the price at which lumber cut from tribal lands is sold to able-bodied Indians. In lieu of paying cash, such Indians may be allowed to perform work as an equivalent of the stumpage value and the cost of sawing for all lumber which they receive. No profit for the mill should be expected upon timber cut from allotments and brought to the mill by the allottee, nor upon lumber cut from tribal lands and sold to the Indians for their personal use. Upon timber cut from tribal land, manufactured at the mill and sold to persons other than Indians, or to Indians for sale to others, a profit for the benefit of the tribe should be realized. In many instances it will be found most convenient to

accept pay for sawing and for stumpage in the form of a toll of the lumber sawn. The percentage which should be deducted as a toll will depend upon the cost of sawing and the value of the sawn lumber at the particular mill. In general the cost of rough sawing at agency mills will be from one-fourth to one-third of the value of the product at the mill, and this cost will determine the proportion to be deducted. The amount of toll to be deducted for sawing, dressing, and matching will vary from one-third to two-fifths of the value of the product, and the toll should be fixed accordingly. If the timber is cut from unallotted lands, an additional toll should be taken to cover stumpage. If the Indians who bring in the logs aid in the sawing, an allowance should be made for their wages. However, the practice of requiring or allowing each Indian to aid in the sawing of the logs which he brings to the mill should be discouraged and a regular mill crew maintained as far as possible.

Section 36.—Superintendents are authorized to employ Indians or other persons to cut logs from tribal lands and deliver them to the mills. The cost of cutting and delivering logs to the mill yard will vary from $3.50 to $6.50 per thousand feet, according to local conditions, but the payment of more than $5 for such work will seldom be justified. The use of portable mills so as to avoid long hauls will obviate the necessity for a high cost of logging. Every effort should be made to induce Indians to do all work in connection with logging and the manufacture of lumber, but they must be required to render services commensurate with the

wages which they receive. The economic and moral success of a mill should not be jeopardized by a policy of keeping indolent Indians in positions carrying good salaries or by the payment of too high wages. The necessary expenses connected with logging and milling operations conducted by the superintendent on unallotted lands may be paid from the proceeds of the lumber sold, but the net proceeds must be deposited to the credit of the tribe as "Indian moneys—proceeds of labor," and any profit which may accrue from the manufacture of timber cut by Indians from either unallotted or allotted lands shall be deposited under the same caption. The office will recognize to the fullest extent the moral, educational, and general social results obtained through the management of an agency sawmill, but superintendents are urged to bear in mind that the amount of the profit realized from the operation will be one test of the success of the mill. Prior to the 5th of each month a report covering the work of the previous month at the agency sawmill should be forwarded to the office and a duplicate of the same retained in the agency file. If there is more than one mill at an agency a separate report should be made for each. In these reports (Form 5–185) the term "issue" will be confined to gratuities.

Section 37.—The system of allowing private sawmills to take a toll of lumber sawn for Indians in payment for the sawing is open to grave abuses, and wherever it is necessary to follow this plan a strict supervision must be exercised in order that an inequitable amount, or too large a proportion of the better

quality, of the lumber is not retained as a toll. A reasonable profit in addition to the actual cost of manufacture should be allowed, but the proportion to be taken as a toll for rough sawing should in no case exceed two-fifths, and that for sawing, dressing, and matching should not exceed one-half. These maximums are too high for mills which are accessible to good markets, or which are large and well equipped.

GENERAL INFORMATION.

Section 38.—Timber upon unallotted lands of reservations situated within the States of Minnesota and Wisconsin, can not be sold under authority of the act of June 25, 1910, but dead and down timber may be sold under the act of February 16, 1889 (25 Stat. L., 673), which reads as follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States may from year to year in his discretion, under such regulations as he may prescribe, authorize the Indians residing on reservations or allotments, the fee to which remains in the United States, to fell, cut, remove, sell, or otherwise dispose of the dead timber, standing or fallen, on such reservation or allotment for the sole benefit of such Indian or Indians. But whenever there is reasonable cause to believe that such timber has been killed, burned, girdled, or otherwise injured for the purpose of securing its sale under this act, then, in that case, such authority shall not be granted.

Section 39.—The general act of June 25, 1910, does not repeal any provisions of precedent special acts applicable to particular reservations, and all requirements of special acts in conflict or at variance with the

terms or spirit of the general law must be complied with. However, the regulations formulated to cover sales under the general act will be applied and enforced in all cases where the provisions are not in conflict with the terms of special acts, and the regular contract forms (Form No. 5–187, for unallotted lands, and Form 5–189, for allotments) will be used. The mature living and dead and down timber may be sold under the act of June 25, 1910, from the unallotted lands of any reservation, with the exception of the Five Civilized Tribes, where the special act provides for the reservation of the timber, or timber lands, for the use of the Indians of that reservation; or where the special act authorizes the sale of timber or timber land and the use of the proceeds for the benefit of the Indians, unless there are special restrictions as to the manner in which the proceeds of the sale are to be administered.

SPECIAL ACTS APPLICABLE TO UNALLOTTED LANDS.

Section 40.—Special acts applicable to unallotted lands referred to in section 39 are given below:

OFFICE OF INDIAN AFFAIRS

REGULATIONS AND INSTRUCTIONS

FOR OFFICERS IN CHARGE OF

FORESTS ON INDIAN RESERVATIONS

APPROVED FEBRUARY 5, 1913

WASHINGTON
GOVERNMENT PRINTING OFFICE
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FRANKLIN K. LANE,
Secretary of the Interior.

CATO SELLS,
Commissioner of Indian Affairs.

J. P. KINNEY,
Chief Superior of Forests.

REGULATIONS AND INSTRUCTIONS FOR OFFICERS IN CHARGE OF FORESTS ON INDIAN RESERVATIONS.

DUTIES OF OFFICIALS.

Duties of superintendent.—SECTION 1. The superintendent of each reservation will be expected and required to do all in his power to secure a wise and advantageous use of forest resources. As the direct representative of the Department of the Interior upon the reservation, he must be held responsible for all forestry work thereon.

Duties of forest officers.—SEC. 2. On reservations where a special forest officer is stationed, the superintendent will delegate to him the direct supervision of the guards, forest and mill employees, and others engaged in forestry work. These officers will consult with the superintendents upon all important matters, and the superintendents will support them, under ordinary circumstances, in all acts of administration. They will submit reports to the superintendent, as required by him, and to the Commissioner of Indian Affairs, through the superintendent, when requested. They shall thoroughly familiarize themselves with all phases of forestry work on the reservations to which they are assigned, including a knowledge of boundaries, of the number of acres of timberland, of the total

stand of timber, of the relative quantity, rapidity of growth, seeding qualities, character of reproduction, adaptability to location, etc., of the different species found. They must also acquaint themselves with the cost of logging and manufacture under different systems, local markets, and the possibilities of developing the same, and all other practical and technical work which will aid the office in so managing the Indian forests as to obtain the greatest revenue for the Indians consistent with a proper protection and improvement of the forests.

Duties of forest guards.—SEC. 3. Forest guards shall perform their duties under the direction of the special forest officer stationed upon the reservation, or under the superintendent where no special forest officer is employed. They shall patrol their districts to prevent and report trespass, fires, violation of agreements by those conducting timber operations, the commission of waste by the Indians or others, and perform other duties as directed, among which may be work in the building of improvements of various kinds, such as telephone lines, roads, trails, and fire lines for the proper protection and administration of the forests. Under the direction of the forest officer in charge, or the superintendent, they shall perform the duties of line riders and stockmen in exercising a proper control of grazing. Wherever a forest officer is in charge the guards shall be selected by him, with the advice and approval of the superintendent, and it shall be his duty to recommend the discharge of any inefficient guard.

Duties of Indian police.—SEC. 4. It shall be the duty of the Indian police to prevent and suppress forest and grass fires as far as possible, and failure on their part to perform such duties, or to report promptly any fire which they can not control, will constitute sufficient cause for dismissal. At times of unusual fire danger the superintendent should detail the police to special patrol for the prevention of fire.

TRESPASS ON INDIAN TIMBERLANDS.

Statute.—SEC. 5. The act of June 25, 1910 (36 Stat. L., 855–857), entitled "An act to provide for determining the heirs of deceased Indians, for the disposition and the sale of allotments of deceased Indians, for the leasing of allotments, and for other purposes," provides:

SEC. 6. That section 50 of the act entitled "An act to codify, revise, and amend the penal laws of the United States," approved March 4, 1909 (35 U. S. Stat. L., p. 1098), is hereby amended so as to read:

SEC. 50. Whoever shall unlawfully cut, or aid in unlawfully cutting, or shall wantonly injure or destroy, or procure to be wantonly injured or destroyed any tree growing, standing, or being upon any land of the United States which, in pursuance of law, has been reserved or purchased by the United States for any public use, or upon any Indian reservation or lands belonging to or occupied by any tribe of Indians under the authority of the United States, or any Indian allotment while the title to the same shall be held in trust by the Government, or while the same shall remain inalienable by the allottee without the consent of the United States, shall be fined not more than $500, or imprisoned not more than one year, or both.

Civil and criminal action.—All forest officers shall report promptly in writing to the superintendent any violation of this law of which they learn. Superintendents shall seize all timber unlawfully cut from Indian land, mark the same, forbid its removal, and promptly report to the Commissioner of Indian Affairs the name and post-office address of the trespasser. They should also report the names and post-office addresses of all witnesses of such depredations, so that if necessary the case may be reported to the Department of Justice for the institution of a civil action for the recovery of damages, a criminal prosecution under the provisions of the act above cited, or the commencement of both civil and criminal actions. In investigating and reporting all cases of trespass, an especial effort must be made to secure all evidence possible immediately after the discovery of the trespass. If the trespass appears to have been unintentionally committed, the superintendent should ascertain what terms of settlement may be made, and submit his report to the office for instructions.

FIRE LAW AND PENALTY.

Statute.—SEC. 6. Section 6 of the act of June 25, 1910 (36 Stat. L., 855-857), also provides that section 53 of the act of March 4, 1909 (35 Stat. L., 1098), be amended so as to read:

SEC. 53. Whoever shall build a fire in or near any forest, timber, or other inflammable material upon the public domain, or upon any Indian reservation, or lands belonging to or occupied by any tribe of Indians under the authority of the United States, or upon

any Indian allotment while the title to the same shall be held in trust by the Government, or while the same shall remain inalienable by the allottee without the consent of the United States, shall, before leaving said fire, totally extinguish the same; and whoever shall fail to do so shall be fined not more than one thousand dollars, or imprisoned not more than one year, or both.

Protective measures.—Forest officers should use all diligence in the detection of parties guilty of a violation of this act. Each superintendent or forest officer in charge is responsible for the division of his Indian forest into patrol districts and the assignment of guards to each district. Guards must use every possible effort to extinguish every fire of which they have knowledge, and must immediately investigate every one of which they are informed. During dry and dangerous periods the selection of headquarters, camping places, and routes should be made with the single object of preventing and discovering fires. Fires caused by lightning are not rare, especially in dry mountain regions. After every electric storm a special effort should be made to locate and extinguish any such fires before they are well under way.

Suppression and report of fires.—SEC. 7. Small fires extinguished without difficulty by the officer who discovers them may be reported to the special forest officer or the superintendent at the end of the month. Large fires requiring help from other guards or Indians, or attendance for several days, should be reported immediately to the forest officer in charge or the superintendent. If help is needed, the superintendent should obtain it at once, and telegraph the Commis-

sioner of Indian Affairs for special authority if any amount in excess of $500 is required. He will also notify the Commissioner of Indian Affairs as soon as the total cost of any fire requiring extra help and expense is ascertained with a statement as to the loss resulting from the fire. Every superintendent is authorized, in person or through a subordinate, to hire temporary men, purchase tools and supplies, and pay for their transportation from place to place to extinguish a fire. No expense for fighting a fire outside a reservation must be incurred unless the fire threatens the reservation. Fire fighters should be paid by the hour, actual working time, at the current local rates. The time consumed in going to and from the fire may be included. Only when a fire is remote from a base of supplies should subsistence be furnished and the rate of pay should then be reduced. While the Indian Office is doing its utmost to prevent and fight fires, only a limited amount of money is available for this purpose. Consequently it must be kept in mind that a fire which can not be controlled by from 10 to 30 men will run away from 100 or even more men, since heat and smoke in such cases make a direct fight impossible. Useless expense must not be incurred. Immediately after July 1 of each year, the superintendent will submit an annual report on fires (form No. 5-483) covering the 12 months ending on June 30. This report should be accompanied by a small scale map of the forest, showing the location of all areas burned over during the year.

USE AND SALE OF TIMBER.

Statute.—SEC. 8. The act of Congress approved June 25, 1910 (36 Stat. L., 855-857), further provides:

Unallotted.—SEC. 7. That the mature living and dead and down timber on unallotted lands of any Indian reservation may be sold under regulations to be prescribed by the Secretary of the Interior and the proceeds from such sales shall be used for the benefit of the Indians of the reservation in such manner as he may direct: *Provided*, That this section shall not apply to the States of Minnesota and Wisconsin.

Allotted.—SEC. 8. That the timber on any Indian allotment held under a trust or other patent containing restrictions on alienations, may be sold by the allottee with the consent of the Secretary of the Interior, and the proceeds thereof shall be paid to the allottee or disposed of for his benefit under regulations to be prescribed by the Secretary of the Interior.

Authority of commissioner and superintendents.—In all sales from either unallotted land or from allotments the approval by the superintendent, or by the Commissioner of Indian Affairs, of any permit, proposal, or contract made in accordance with the following regulations, shall operate as the specific consent of the Secretary of the Interior to the sale and removal of the timber covered thereby.

Osage and Five Tribes.—The provisions of sections 7 and 8 of the act of June 25, 1910 (36 Stat. L. 855, 857) are not applicable to allotted or unallotted lands of the Osage Indians, nor to those of the Five Civilized Tribes in Oklahoma, because of a limitation in section 33 of the said act of June 25, 1910 (36 Stat. L. 855, 863). Laws enacted at an earlier date authorized

the sale of timber from the lands thus excepted by section 33 of the act of June 25, 1910.

Sales from unallotted lands.—SEC. 9. Large sales of timber will be made from unallotted lands as occasions arise. Such sales will receive special consideration, and a regular contract will be executed, accompanied by a bond when necessary. However, small operations should be allowed in order to meet the needs of the Indians or to satisfy the requirements of white persons living upon reservations, or of settlers living in the vicinity of the same. In some of these cases a charge should be made for the timber removed and in other instances no charge should be made. The course to be pursued will vary to some extent with the conditions on each reservation and the circumstances of each individual case, but the general policy to be followed by the superintendent should accord with the following principles:

Indians.—(a) No charge should be made to Indians for dead or living timber taken from unallotted lands for personal use. A stumpage charge, fixed with a view to the encouragement of Indians in habits of thrift and improvement of the condition of the forest, should be made to Indians removing dead timber from unallotted lands for sale. The full stumpage value should be charged to Indians removing living timber from unallotted lands for sale, except where the wood or timber is to be used for Government purposes.

Non-Indians.—(b) A small stumpage charge should be made to persons other than Indians for dead timber removed from unallotted land for personal use. The

full stumpage value should be charged such persons for either living or dead timber removed from unallotted lands for sale.

Use of proceeds (see sec. 23).—Where the amount of timber available is no greater than is needed by the Indians, no sales should be made. All expenses connected with the sale of timber from unallotted lands may be paid from the proceeds of the sale, but the net proceeds shall be deposited as "Indian moneys, proceeds of labor." The gross proceeds must be taken up in the superintendent's account as "Miscellaneous receipts, Class 3." Where unallotted timber is sold under authority of a special act, an expense deduction will be made as directed in section 23 of the regulations.

Sales from allotted land.—SEC. 10. Extensive timber operations upon allotments will be conducted only under special permission from the Commissioner of Indian Affairs or the Secretary of the Interior. Small sales may be made with the permission of the superintendent. Except as provided in section 11, all sales from allotments should be made through the superintendent and a proper percentage of the proceeds may be deducted, as specified in section 23, to cover the expenses connected with the sale. The gross proceeds received from such sale shall be taken up and accounted for by the superintendent under the caption "Individual Indian money," and the net proceeds should be deposited to the credit of the allottee under the same caption. This money will be subject to expenditure for the benefit of the allottee under the general regulations governing the use of individual Indian money.

The property of minors must be jealously guarded during their minority. It will be the general policy of the department to permit the sale of timber from allotments of minors only to meet the necessities of life, to afford the means of an education, or to improve the productive value of the land for agricultural or timber crops. Upon allotments of both minors and adults wood lots must be reserved wherever practicable. Upon areas not adapted to agriculture, where because of the slope a forest covering is needed, where the leaving of a second crop of timber is desirable, where the permanent maintenance of a wood lot is essential, and where any other conditions demand it, the merchantable trees necessary to accomplish the end in view should be reserved from sale. Extensive clear cutting should be permitted only where the land will be utilized for agricultural purposes.

Permits for allotted and unallotted land.—SEC. 11. Superintendents will insist that all timber cutting, except for the personal use of an Indian, not done under a formal contract upon either unallotted lands or allotments, by Indians or others, shall be done under the regular permit (form No. 5-924), and will impress upon permittees the importance of preserving the permit form as evidence of their right to cut and remove timber. It is advisable that separate permit books be used for operations on unallotted lands and on allotments in order that data for the superintendent's annual statistical report may be readily abstracted. On reservations of limited extent the permit should be issued from the agency office only. On large reservations permits may also be issued by subagents, or other officials, as may be found most convenient. Each annual statistical report by the superintendent must include the timber cut under all permits issued on the reservation. The same permit form will be used by the superintendent in allowing Indians to clear portions of their allotments for agricultural purposes. A complete record of such clearings must be kept in the permit book. Permit form (5-924) will be used only where the stumpage value of the timber to be removed from either unallotted lands or allotments is less than $25. In the discretion of the superintendent the stumpage value of the timber, not exceeding $100 in any one year, cut from an allotment under a permit or permits, may be paid directly to the allottee by the purchaser and not be taken up in the superintendent's accounts. The permit form was devised as a convenience in meeting the requirements of Indians and other persons for limited quantities of timber for domestic, agricultural, and grazing purposes. It must not be used as a substitute for the regular timber contracts. The limit of the amount of timber which may be cut in one year by either an Indian or other person from allotted or unallotted lands under permit 5-924 is $100, stumpage value.

Contracts for allotted and unallotted land.—SEC. 12. For sales of timber of a stumpage value greater than $25 the regular contract forms (form No. 5—481 for either unallotted or allotted lands, form No. 5—487 for unallotted lands, and form No. 5-489 for allotments), must be used, except where the Commissioner

of Indian Affairs shall have specially authorized a superintendent to permit the removal of timber of a value in excess of $25 without formal contracts to meet unusual conditions. No sale of timber from either tribal lands or from an allotment of a stumpage value greater than $100 shall be effected until an examination of the timber to be sold shall have been made and a written recommendation of the sale submitted by the examiner, including an appraisal of the value of the timber, an exact description of the proposed sale area, and, if possible, a map showing all essential or important information. In all sales in which the stumpage value of the timber is greater than $250, the contracts must be forwarded to Washington for approval.

Approved by superintendent.—In sales of timber of a stumpage value not exceeding $250, the contracts may be made by the superintendent on unallotted lands or approved by him for sales from allotments, but a copy of each contract signed or approved by the superintendent must be mailed immediately to the Commissioner of Indian Affairs.

Open-market sales, unallotted land.—SEC. 13. Open-market contract sales of timber not exceeding $100 each in stumpage value may be made from unallotted lands by the superintendent, but the total stumpage value of timber thus sold to any one individual, firm, or corporation in any one year shall not exceed $1,000.

Open-market sales, allotted land.—SEC. 14. Open-market contract sales of timber not exceeding a total of $100 in stumpage value in any one year may be

made from any Indian allotment with the approval of the superintendent having jurisdiction thereover.

Advertisement of sales.—SEC. 15. All sales of timber of a stumpage value greater than $100 shall be made only after due advertisement. If the stumpage value of the timber offered does not exceed $1,000, the advertisement may be made by posters and circular letters, and the sale may be made at auction or under sealed proposals. If the stumpage value exceeds $1,000 the advertisement must be made in at least one newspaper of general circulation in the locality where the timber is situated, and sealed proposals must be received if the value exceeds $5,000, except where the Commissioner of Indian Affairs specially authorizes a sale at public auction. For sales in which the stumpage value of the timber does not exceed $5,000, the advertisement shall be for not less than 15 days; for sales exceeding $5,000 but not over $100,000, not less than 30 days; and for all sales exceeding $100,000, not less than 60 days.

Open-market sales after advertisement.—SEC. 16. Timber which has been duly advertised for sale at public auction or under sealed proposals may be sold in open market for not less than the appraised value at any time within one year from the date of the auction or the last day on which bids were to be received as defined in the advertisement.

Sales requiring Secretary's approval.—SEC. 17. Sales in which the stumpage value of the timber does not exceed $50,000 may be made from unallotted land by

the Commissioner of Indian Affairs or from allotments with his approval. Sales in which the stumpage value exceeds $50,000 shall be made only with the express approval of the Secretary of the Interior.

Deposits with bids.—SEC. 18. A deposit of not less than 5 per cent of the estimated value of the timber advertised shall be submitted with each proposal for timber not exceeding $100,000 in value. The amount of the deposit to be required in sales exceeding $100,000 shall be determined at the time of each advertisement. Every deposit in excess of $500 must be in the form of a duly certified check on a solvent national bank, drawn payable to the order of the superintendent having jurisdiction over the timber. Smaller deposits may be in cash, or a duly certified check, as required by the advertisement. A deposit of 10 per cent of the estimated value of the timber sold will be required of the successful bidder at the time of the sale, when timber is sold at auction. All of these deposits are required as a guaranty of good faith, and when a bond is not executed the deposit of the successful bidder will be retained until the contract is completed. In the final settlement under the contract the deposit will be credited, if the successful bidder has fully complied with the terms of his proposal and the contract, as a portion of the whole amount due for the timber purchased. If a bond is furnished and accepted, the deposit may be credited as a first installment in payment for the timber. The cash or certified checks deposited will be returned to depositors whose proposals are not accepted.

Payments for timber.—SEC. 19. In all sales payments for timber will be required in advance of cutting, either as a single payment or in the form of installments. In sales of a stumpage value not exceeding $100 the number of installments shall not exceed 4; in sales of a value exceeding $100 but not over $5,000, the number of installments shall not exceed 10; in sales of a value greater than $5,000 but not over $50,000, the number of installments shall not exceed 20; and in sales of a value greater than $50,000 but not over $100,000, the number of installments shall not exceed 40. In sales in which the stumpage value exceeds $100,000, the amount of the required deposits shall be determined at the time of each sale, but shall not be less than $2,500 each.

Bonds.—SEC. 20. In sales in which the stumpage value of the timber does not exceed $5,000 no bond will ordinarily be required; in sales in which the value exceeds $5,000 but is not over $10,000, a bond of approximately 20 per cent of the value of the timber may be required in the discretion of the Commissioner of Indian Affairs; in sales in which the value exceeds $10,000 but is not over $50,000, a bond will be required by the Commissioner of Indian Affairs in an amount not less than 10 per cent of the estimated value of the timber; in sales in which the stumpage value exceeds $50,000 a bond will be required in an amount to be fixed by the Secretary of the Interior.

Times for removal of timber.—SEC. 21. The maximum periods which shall be allowed after the date of the contract for the cutting and removal of the timber

purchased shall be as follows: For sales of $1,000 stumpage value or less, one year; for sales over $1,000 but not exceeding $5,000, two years; for sales over $5,000 but not exceeding $50,000, five years; for sales over $50,000 but not exceeding $100,000, eight years; and for sales exceeding $100,000, the number of years fixed in the advertisement. However, the cutting and removal of any amount shall not be so distributed over the allowed period as to render the cost of supervision unreasonably high.

Acceptance and rejection of bids.—SEC. 22. The right of the superintendent, the Commissioner of Indian Affairs, or the Secretary of the Interior to waive technical defects in advertisements and proposals and to reject any and all proposals shall be reserved in all cases according as each has authority to make sales.

Payment of expenses of sales (see sec. 9).—SEC. 23. In all sales of timber from unallotted lands except where the net proceeds are deposited as "Indian moneys, proceeds of labor," and in all sales from allotted lands the amount deducted from the proceeds to meet the expenses connected with the sale should be sufficient to cover the cost of examination, supervision, scaling, collecting, caring for the brush, and protecting from fire the timber and young growth left standing upon the land logged or upon adjacent land. For large sales 6 per cent of the gross proceeds may be sufficient to cover such expenses, but for small sales the cost of administration will often amount to 10 per cent or even a larger proportion of the gross proceeds. In all instances in which the percentage to be

deducted has not been specifically fixed by the Commissioner of Indian Affairs, 8 per cent of the gross amount received for the timber sold from any allotment will be deducted by the superintendent and the remaining 92 per cent will be paid to the allottee or his heirs, or be deposited to the credit of the party or parties entitled as the circumstances and official regulations and instructions may require. The amount deducted for expenses of administration will be taken up in the superintendent's cash account as "Individual Indian money, timber expense." This cash should be deposited to the superintendent's official credit in a bank bonded for the safekeeping of individual Indian money, where a bond of this character is in force. If no such bond is in force, such receipts may be deposited to the official credit of the superintendent with the Treasurer of the United States. Such deposits will be subject to the superintendent's check for payment of expenses of the kind authorized by these regulations in connection with any Indian allotment.

For sales in which the stumpage value of the timber does not exceed $5,000, superintendents are authorized to arrange for newspaper advertisements in accordance with the requirements of section 15 of these regulations and to pay the cost of such advertisements from "Indian moneys, proceeds of labor," for offerings of unallotted timber and from "Individual Indian money, timber expense," for offerings of allotted timber.

Number of copies of contracts.—SEC. 24. All contracts for the sale of timber from unallotted lands

must be executed in triplicate. If the sale is for timber of such a value that the contract can not be made or approved by the superintendent, all copies must be forwarded to the Commissioner of Indian Affairs. If the contracts are approved by the commissioner or by the Secretary of the Interior, one copy will be retained in the Indian Office and two copies returned to the superintendent. A copy must be kept in the agency file and the third copy should be given to the contractor. If the contract is for the sale of timber from an allotment, it should be executed in quadruplicate in order that a copy may be available for the allottee. Only one copy should be forwarded to the office if the superintendent approves, but all four copies if the contract requires the approval of the Commissioner of Indian Affairs or the Secretary of the Interior.

Timber of minors.—SEC. 25. A contract for the sale of the timber on the allotment of a minor under the act of June 25, 1910, must be signed by the father, mother, superintendent, or other officer in charge of the agency, in the order named. In timber sales from allotments the same precaution for the future interests of the minor should be observed as a court of chancery or guardianship would exercise in authorizing the conversion of the property of a minor into another form, or the use of the principal for necessities. Such sales will never be approved as a matter of course, but in all cases must be thoroughly considered and most carefully supervised.

SPECIAL REQUIREMENTS OF CONTRACTS.

Stump height and top diameter.—SEC. 26. The allowable height of stumps should usually be fixed at 10, 12, 14, 16, or 18 inches and should never exceed the diameter of the tree at the top of the stump, unless the trees are excessively swell-butted or both badly and generally affected with shake. Where the trees are small the maximum stump height may be fixed at less than 18 inches. The maximum diameter of the base of tops should be fixed so as to utilize all timber which may be taken without loss by the use of methods of logging and utilization which are economical and feasible. Wherever the market conditions and the kind of timber being cut will permit, all trees should be utilized to a diameter of 6 inches in the tops. If still smaller timber is merchantable, the purchaser should be required to take it and pay for it.

Timber left standing.—SEC. 27. The general minimum diameter limits to which trees will be cut as stipulated in the contract will vary greatly with local conditions, but upon lands which are to be kept as timberlands should be such as to leave sufficient seed trees in all cases, and in most instances such as to leave 20 or 30 per cent of the merchantable stand as a basis for future timber crops.

Disposal of brush.—SEC. 28. Ordinarily the brush should be piled at the time of cutting and burned either as piled or as soon thereafter as it can be conveniently done. A good time to burn brush which has accumulated during the summer or lain over from the previous winter's logging is directly after the first fall

of snow in the autumn. Where there is slight fire danger or a special danger of soil erosion, or where a soil covering is needed to insure reproduction, the brush may be lopped or scattered. Occasionally the burning of brush will be impracticable because of the density of the stand of timber which is not cut. The piling and burning of the brush should be insisted upon in all cases where there is any substantial doubt as to the method of disposal which should be used. Superintendents and special forest officers in charge of timber operations are particularly cautioned that the careful consideration of such questions and the strictest supervision of brush disposal, to the end that fire danger is reduced to the minimum, will be required by the office.

MARKING.

General suggestions.—SEC. 29. When standing timber is marked for cutting the letters "U. S." should be stamped low enough on the tree to appear clearly on the stump after the tree is cut. Where snow may conceal the marking from the cutters, each tree must also be marked at a point several feet from the ground. Witness trees or any tree blazed to mark the line of any Government survey should never be marked or otherwise designated for cutting. (Act of June 10, 1896, 29 Stat. L., 321.) All mature and overmature trees and merchantable trees of undesirable species should be marked. Unless needed for seed, all trees which show defects, such as punk knots, spike tops, bad crooks, low forks, fire scars, cat faces, or frost cracks, should be marked. The officer doing the

marking should not be unreasonable in requiring purchasers to take defective trees, but as a general rule those which will yield one merchantable log should be marked. Poorly crowned or crowded trees of any usable size should be marked. Thrifty, young, rapidly growing trees of desirable species should not be marked even if they have a diameter larger than the minimum stated in the contract. Where the danger of windfall or the need for protection of the soil from erosion is great, the number of trees marked for removal should be very limited. Each tree left should have its crown free enough for vigorous growth. As a rule, trees left for seed should be young trees which will yield good lumber in the future. In mixed forests all seed trees should be of the more valuable species. If there is danger that fire will run over the cutting area, enough trees should be left to seed the ground fully, even though reproduction is present at the time of the cutting. To give good results, seed trees of most species should not be farther apart than twice their height and should be evenly distributed over the cutting area. On the edge of openings, such as old burns, seed trees should be left on the side from which the prevailing winds blow. Isolated, thrifty trees of desirable species should be marked only when it is evident that this species will not grow well on that particular situation. The marker should first decide which trees are to be left and then mark the trees to be removed. Doubt whether a tree should be left for seed or protection should be resolved in favor of leaving, and a defective tree should be marked if there is

doubt as to its being classed as merchantable. When dead timber is to be cut, the boundary of the cutting area may be marked and the marking of individual trees omitted. If for any reason trees within such an area are to be reserved from cutting they should be marked.

SCALING.

General instructions.—SEC. 30. All saw timber should be scaled. Each log must be numbered with crayon. The number should be the same as that opposite which the scale of the log is recorded in the scale book. The logs in all skidways must be counted and the number in each checked with the entries in the scale book. Diameters of logs will be measured at the small end inside the bark and the scale recorded which corresponds with the nearest inch above or below the actual diameter. Logs which are not round should be scaled on the average diameter. Proper deductions should be made for defects in logs, but no deduction for curves or sweep should be made in scaling lengths which exceed 16 feet. Logs and other timber so defective as to be absolutely worthless should not be stamped. Unsound or crooked logs should be scaled down to the actual contents of merchantable material. All partially unsound but merchantable timber must be scaled, whether removed or not, wherever the merchantable material in the same is equal to one-third of the gross scale or wherever a smaller proportion will pay the cost of transporting and manufacturing the defective logs. Unless a contract which has been approved by the Commissioner of Indian Affairs provides otherwise, all

logs in which the deductions for visible indications of defect do not exceed 66⅔ per cent of the gross scale of the log shall be considered merchantable. The large scale book (Form 5–925) will hold the scale of 5,000 logs, the small book (Form 5–926) will hold the scale of 2,500 logs. The large book should be used only on large scales.

Skidding of logs.—SEC. 31. The purchasers may be required to skid logs, to mark the top ends, and place them even in the pile, and to skid logs of different lengths in separate piles as shall be necessary for convenient scaling. Log lengths should be accurately measured at frequent intervals to insure that they do not overrun the 3 extra inches allowed for trimming. Logs should be skidded for scaling if the cost of scaling will be materially decreased by this requirement.

SEC. 32. The Scribner Decimal C log rule shall be used in scaling except where a contract approved by the Secretary of the Interior or by the Commissioner of Indian Affairs provides for the use of a different log scale rule. This rule drops the units and gives the contents of a log in the nearest number of tens. Thus, the contents of a 16-foot log 12 inches in diameter, which is 79 board feet according to Scribner's computation, is evened off to 80 and given as 8; the 303 board feet in a 24-inch log 12 feet long are rounded off to 300 and appear as 30 in the table. The total scale of a log in board feet is obtained by multiplying by 10 the number read from the scale stick. The Scribner Decimal C log rule for logs from 6 to 16 feet in length and from 6 to 120 inches in diameter is as follows:

Scribner Log Rule.

[Decimal "C."]

Diameter.	Length (feet).						Diameter.
	6	8	10	12	14	16	
Inches.	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Inches.*
6	0.5	0.5	1	1	1	1	6
7	0.9	1	1	1	2	2	7
8	1	1	2	2	2	3	8
9	2	2	2	3	3	4	9
10	2	3	3	3	4	5	10
11	3	3	4	4	5	7	11
12	3	4	5	6	6	8	12
13	4	5	6	7	8	10	13
14	4	6	8	9	10	12	14
15	5	7	9	11	12	14	15
16	6	8	10	12	14	16	16
17	7	9	12	14	16	18	17
18	8	11	13	16	19	21	18
19	9	12	15	18	22	24	19
20	11	14	17	21	24	28	20
21	12	15	19	23	27	30	21
22	13	17	21	25	29	33	22
23	14	19	23	28	32	36	23
24	15	21	26	30	35	39	24
25	17	23	28	34	40	46	25
26	18	25	31	37	44	50	26
27	21	27	34	41	48	55	27
28	22	30	38	44	51	58	28
29	24	32	40	48	56	64	29
30	26	35	43	52	60	69	30
31	27	38	46	56	65	74	31
32	29	40	49	59	69	79	32
33	30	43	52	63	73	83	33
34	32	45	55	66	76	86	34
35	35	48	58	70	81	92	35
36	38	51	62	74	86	98	36
37	40	54	66	78	91	103	37
38	42	57	69	83	96	109	38
39	45	60	73	88	102	116	39
40	48	64	78	93	108	123	40
41	50	67	84	101	117	134	41
42	53	70	87	105	122	140	42
43	56	74	93	111	130	148	43
44	59	79	98	118	138	158	44

Scribner Log Rule—Continued.

[Decimal "C."]

Diameter.	Length (feet).						Diameter.
	6	8	10	12	14	16	
Inches.	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Inches.*
46	65	70	90	110	130	150	46
47	68	75	104	124	145	166	47
48	64	80	106	130	154	172	48
49	67	89	113	138	157	182	49
50	70	94	117	145	164	187	50
51	73	97	130	146	170	195	51
52	76	101	135	169	177	202	52
53	79	105	132	158	184	210	53
54	82	109	137	164	191	218	54
55	86	113	143	170	198	227	55
56	89	118	147	176	206	235	56
57	91	122	152	183	213	244	57
58	94	126	156	189	221	252	58
59	98	131	163	196	229	261	59
60	101	136	169	203	237	270	60
61	105	140	175	210	245	280	61
62	108	145	181	217	253	289	62
63	112	149	187	224	261	299	63
64	115	154	193	232	270	309	64
65	119	159	199	239	279	319	65
66	123	164	205	247	288	329	66
67	127	170	213	254	297	339	67
68	131	175	219	263	306	350	68
69	135	180	225	271	316	361	69
70	139	186	232	279	325	372	70
71	144	192	240	287	335	383	71
72	148	197	247	296	345	395	72
73	152	203	254	305	356	406	73
74	157	209	261	314	366	418	74
75	161	215	269	323	377	430	75
76	166	221	277	333	387	443	76
77	171	228	285	341	398	456	77
78	176	234	293	351	410	469	78
79	180	240	301	361	421	481	79
80	185	247	309	371	433	494	80
81	189	254	317	381	444	508	81
82	195	261	326	391	456	521	82
83	201	268	335	401	468	535	83
84	206	275	343	412	481	549	84
85	210	281	351	421	491	561	85

Scribner log rule—Continued.

[Decimal "C."]

Diameter.	Length (feet).						Diameter.
	4	6	10	12	14	16	
Inches.	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Bd. ft.*	*Inches.*
26	213	267	339	431	503	571	26
27	221	276	350	443	516	589	27
28	229	286	377	455	537	608	28
29	231	289	384	469	550	630	29
30	239	299	395	477	564	639	30
31	241	302	400	489	565	646	31
32	249	312	411	498	573	657	32
33	251	315	419	509	587	671	33
34	257	342	433	514	599	685	34
35	259	339	437	525	612	700	35
36	268	357	446	534	625	715	36
37	275	364	456	546	637	728	37
38	279	371	464	557	650	743	38
39	284	379	473	568	663	757	39
40	289	384	482	579	675	772	40
41	295	393	490	590	688	787	41
42	303	403	500	601	702	802	42
43	307	409	512	614	716	819	43
44	313	417	522	626	730	834	44
45	319	425	532	638	744	851	45
46	325	433	542	650	759	867	46
47	331	442	552	662	773	884	47
48	337	450	563	675	788	902	48
49	344	459	573	688	802	917	49
50	350	467	583	700	817	933	50
51	356	475	594	713	832	951	51
52	363	483	604	725	846	967	52
53	369	492	616	738	861	984	53
54	375	501	625	751	876	1,002	54
55	382	509	637	764	891	1,019	55
56	389	519	648	778	908	1,037	56
57	395	526	660	792	924	1,056	57
58	402	537	672	806	940	1,075	58
59	410	547	683	820	957	1,093	59
60	417	556	695	834	973	1,112	60

Log Lengths and Tapers.—SEC. 33.—In all ordinary sales the maximum scaling length of logs shall be 16 feet.

No scaling lengths in excess of 16 feet shall be allowed under any circumstances without the special permission of the Commissioner of Indian Affairs. If a log exceeds 16 feet in length it will be scaled as two or more logs, in lengths not less than 12 feet where practicable. The following table shows how the lengths should be divided in the scaling of logs 18 to 60 feet long. The number of inches to be added to the diameter at the points of division made for scaling purposes from the top toward the butt of a long log to allow for taper is placed under each length.

Total length.	Log lengths.				Total length.	Log lengths.			
Feet.	Butt log.	Second log.	Third log.	Top log.	Feet.	Butt log.	Second log.	Third log.	Top log.
18	16'			2'	48	16'	12'		12'
Increase	0"			0"	Increase	0"	1"		0"
20	16'			4'	50	16'	14'		14'
Increase	1"			0"	Increase	0"	1"		0"
22	12'			10'	52	16'	16'		12'
Increase	1"			0"	Increase	0"	1"		0"
24	14'			10'	54	16'	16'		14'
Increase	1"			0"	Increase	0"	1"		0"
26	16'			12'	56	16'	16'		16'
Increase	1"			0"	Increase	0"	1"		0"
28	14'			14'	58	16'	12'	12'	12'
Increase	1"			0"	Increase	0"	1"	1"	0"
30	16'			14'	60	16'	12'	12'	12'
Increase	1"			0"	Increase	0"	1"	1"	0"
32	16'			16'	54	16'	14'	12'	12'
Increase	1"			0"	Increase	0"	1"	1"	0"
34	12'	12'		16'	56	16'	16'	12'	12'
Increase	1"	1"		0"	Increase	0"	1"	1"	0"
36	12'	12'		12'	58	16'	16'	14'	12'
Increase	1"	1"		0"	Increase	0"	1"	1"	0"
38	14'	12'		12'	60	16'	16'	16'	14'
Increase	1"	1"		0"	Increase	0"	1"	1"	0"

For example, a 42-foot log, 16 inches in diameter at the top, would be scaled as—

One 12-foot log with a diameter of 16 inches.

One 14-foot log with a diameter of 17 inches.

One 16-foot log with a diameter of 19 inches.

The allowance for taper should be varied to conform to the actual taper.

Measurement of by-products.—SEC. 34. When scaled each stick of saw logs, timbers, ties, posts, poles, piles, or stulls must be stamped "U. S." on at least one end. Cordwood must be stamped at both top and bottom of each pile and on at least 10 pieces in each cord. In the absence of a scale stick or where the position of the logs in piles makes the use of a scale stick difficult, the diameters and lengths of the logs or poles may be tallied and the contents figured from a scale table later. Ties may be actually scaled, or they may be counted and the number multiplied by the average contents. Ordinarily 8-foot, standard face ties may be rated at 33⅓ board-feet each, or 30 ties to the 1,000 feet; 8-foot second-class ties and 6-foot standard-face ties may be rated at 25 board-feet each, or 40 ties to the 1,000 feet. Shake and single bolt material may be measured either by the cord or by the 1,000 feet board measure. Poles, posts, piles, etc., may be scaled, sold by the linear foot or by the piece, as circumstances make advisable. The equivalent in board feet of a cord of wood will vary from 500 to 700. A cubic foot of round timber contains from 6 to 8 board feet of sawn lumber. Twelve board feet of lumber equal 1 cubic foot. An ordinary fence post may be considered equivalent to 5 board feet, or 1¼ cubic feet, and an ordinary telephone pole to 60 board feet, or 10 cubic feet. Five laths equal 1 board foot and 60 laths 1 cubic foot, while 10 shingles equal 1 board foot and 1,000 shingles about 9 cubic feet.

AGENCY SAWMILLS.

General instructions.—SEC. 35. The agency sawmill has important possibilities as a means of training Indians in habits of work, as an incentive to improved housing conditions and other improvements on allotments, and as a source of revenue for the general uplift of the tribe. The gratuitous issue of lumber should be restricted to indigent Indians whose circumstances are such as to make it impossible for them to earn their own living. The cost of sawing timber, cut from either allotments or unalloted lands, should be paid by the Indians for whom the sawing is done, and both the stumpage value and the cost of sawing should be covered by the price at which lumber cut from tribal lands is sold to Indians, except where the product is needed and actually used by the Indian obtaining it for construction purposes or improvements. In lieu of paying cash, such Indians may be allowed to perform work as an equivalent of the cost of sawing for all lumber which they receive for personal use. No profit for the mill should be expected upon timber cut from allotments and brought to the mill by the allottee, nor upon lumber cut from tribal lands and sold to the Indians for their personal use. Upon timber cut from tribal land,

manufactured at the mill and sold to persons other than Indians, or to Indians for sale to others, both the stumpage value and a profit for the benefit of the tribe should be realized. In many instances it will be found most convenient to accept pay for sawing and for stumpage in the form of a toll of the lumber sawn. The percentage which should be deducted as a toll will depend upon the cost of sawing and the value of the sawn lumber at the particular mill. In general, the cost of rough sawing at agency mills will be from one-fourth to one-third of the value of the product at the mill, and this cost will determine the proportion to be deducted. The amount of toll to be deducted for sawing, dressing and matching will vary from one-third to two-fifths of the value of the product, and the toll should be fixed accordingly. If the timber is cut from unallotted lands, an additional toll should be taken to cover stumpage. If the Indians who bring in the logs aid in the sawing, an allowance should be made for their wages. However, the practice of requiring or allowing each Indian to aid in the sawing of the logs which he brings to the mill should be discouraged and a regular mill crew maintained as far as possible.

Method of operation.—SEC. 36. Superintendents may employ Indians or other persons to cut logs from tribal lands and deliver them to the mills under authorities which should be requested in the usual manner. The cost of cutting and delivering logs to the mill yard will vary from $3.50 to $7.50 per thousand feet, according to local conditions, but the payment of more than $5 for such work will seldom be justified.

The use of portable mills so as to avoid long hauls will obviate the necessity for a high cost of logging. Every effort should be made to induce Indians to do all work in connection with logging and the manufacture of lumber, but they must be required to render services commensurate with the wages which they receive. The economic and moral success of a mill should not be jeopardized by a policy of keeping indolent Indians in positions carrying good salaries or by the payment of too high wages. The necessary expenses connected with logging and milling operations conducted by the superintendent on unallotted lands may be paid from the proceeds of the lumber sold, but the net proceeds must be deposited to the credit of the tribe as "Indian moneys, proceeds of labor," and any profit which may accrue from the manufacture of timber cut by Indians from either unallotted or allotted lands shall be deposited under the same caption. The office will recognize to the fullest extent the moral, educational, and general social results obtained through the management of an agency sawmill, but superintendents are urged to bear in mind that the amount of the profit realized from the operation will be one test of the success of the mill. Prior to the 5th of each month a report covering the work of the previous month at the agency sawmill should be forwarded to the office and a duplicate of the same retained in the agency file. If there is more than one mill at an agency, a separate report should be made for each. In these reports (Form 5—485) the term "issue" will be confined to gratuities.

Private mills.—SEC. 37. The system of allowing private sawmills to take a toll of lumber sawn for Indians in payment for the sawing is open to grave abuses, and wherever it is necessary to follow this plan a strict supervision must be exercised in order that an inequitable amount or too large a proportion of the better quality of the lumber is not retained as a toll. A reasonable profit in addition to the actual cost of manufacture should be allowed, but the proportion to be taken as a toll for rough sawing should in no case exceed two-fifths, and that for sawing, dressing, and matching should not exceed one-half. These maximums are too high for mills which are accessible to good markets or which are large and well equipped.

GENERAL INFORMATION.

Dead and down timber.—SEC. 38. Timber upon unallotted lands of reservations situated within the States of Minnesota and Wisconsin can not be sold under authority of the act of June 25, 1910, but dead and down timber may be sold under the act of February 16, 1889 (25 Stat. L., 673), which reads as follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States may, from year to year, in his discretion, under such regulations as he may prescribe, authorize the Indians residing on reservations or allotments, the fee to which remains in the United States, to fell, cut, remove, sell, or otherwise dispose of the dead timber, standing or fallen, on such reservation or allotment for the sole benefit of such Indian or Indians. But whenever there is reasonable cause to believe that such timber has been killed, burned, girdled, or otherwise injured for the purpose of securing its sale under this act, then, in that case, such authority shall not be granted.

Special acts.—SEC. 39. The general act of June 25, 1910, does not repeal any provisions of precedent special acts applicable to particular reservations, and all requirements of special acts in conflict or at variance with the terms or spirit of the general law must be complied with. However, the regulations formulated to cover sales under the general act will be applied and enforced in all cases where the provisions are not in conflict with the terms of special acts, and the regular contract forms (form 5—481 for either unallotted or allotted lands, form 5—487 for unallotted lands, and 5—489 for allotments) will be used. The mature living and dead and down timber may be sold under the act of June 25, 1910, from the unallotted lands of any reservation (with the exception of the Five Civilized Tribes), where the special act provides for the reservation of the timber, or timberlands, for the use of the Indians of that reservation; or where the special act authorizes the sale of timber or timberland and the use of the proceeds for the benefit of the Indians, unless there are special restrictions as to the manner in which the proceeds of the sale are to be administered.

Indian logging.—SEC. 40. Form 5—481 is intended for use where logging operations are conducted by an Indian, either from his now allotment or from tribal lands, and the product sold either on the land after severance or delivered to some other point. When timber is cut from an allotment held under a trust patent or other patent containing restrictions on alienation the contract should ordinarily require that the

proceeds be paid into the hands of the superintendent and an accounting be made therefor. In exceptional cases the purchase price may be paid direct to the allottee, less the deduction for supervision. Except where the allotment is held under a fee patent, a strict supervision must be exercised. When form 5–481 is used for the sale of timber cut from tribal land the contract must require that the stumpage value of the timber be paid direct to the superintendent. The Indian may receive the payment for labor and profit directly from the purchaser.

Sale of stumpage.—When standing timber is purchased from unallotted lands by Indians or others, contract form 5–487 should be used and when stumpage is purchased from allotted lands form 5–489 should be used. These forms contemplate, and provide for a certain flexibility to meet variable conditions, but no essential departure from the fundamental requirements of such contracts may be authorized by a superintendent or other field officer.

CATO SELLS,
Commissioner of Indian Affairs.

February 5, 1918.
Approved.
S. G. HOPKINS,
Assistant Secretary of the Interior.

APPENDIX.

The attention of field officers is directed to the following special acts and decisions regarding timber on unallotted Indian lands:

BAD RIVER RESERVATION.

Timber on unallotted lands is sold under authority of the act of August 1, 1914 (38 Stat. L., 605).

Timber on sections 16 and the lands claimed by the State of Wisconsin as "swamp lands" was covered by the act of May 18, 1916 (39 Stat. L., 123, 157) which is quoted in full below under La Points and Lac du Flambeau.

On January 7, 1918, the United States Supreme Court decided that the title of the La Points Indians to the sixteenth sections within the Bad River Reservation was superior to that of the State.

BLACKFEET RESERVATION.

ACT OF MARCH 1, 1907 (34 STAT. L., 1017, 1035).

That lands classified and returned by said commission as timber-lands shall be sold and disposed of by the Secretary of the Interior, under sealed bids, to the highest bidder for cash, at not less than $5 per acre, under such rules and regulations as he may prescribe: *Provided*, That the said timber lands shall be sold in tracts not exceeding 40 acres, with preference right of purchase to actual settlers, including Indian allottees residing in the vicinity, at the highest price bid.

COLVILLE RESERVATION.

ACT OF MARCH 22, 1906 (34 STAT. L., 80.)

SEC. 5. That all of said lands returned and classified as timber-lands shall be sold and disposed of by the Secretary of the Interior under sealed bids to the highest bidders for cash or at public auction, as the Secretary of the Interior may determine, and under such rules and regulations as he may prescribe.

Form No. 5-502

UNITED STATES INDIAN SERVICE—FORESTRY BRANCH.

GENERAL TIMBER SALE REGULATIONS.

1. The word superintendent as used in these regulations signifies the Superintendent of the Indian Agency or School within the jurisdiction of which the land covered by any contract is included.

2. The term officer in charge, wherever used in these regulations, signifies the forest officer of highest rank assigned to the supervision of timberwork on the reservation within which the sale area is situated or such other officer as may be designated by the Commissioner of Indian Affairs to supervise a sale.

3. Log scalers will be appointed by the Commissioner of Indian Affairs and receive their instructions from the officer in charge.

4. No timber other than that sold may be cut by the purchaser on the sale area without a separate contract of sale therefor, and timber on allotments within a general sale area held under trust or restricted patents can not be logged without a contract with the owners of the allotment approved by the proper officer.

5. Other sales within a sale area may be made of products and kinds of timber not sold under a previous sale, provided such sales will not, in the judgment of the officer having authority to make such sale, interfere with the operations of the previous purchaser. Rights of way may be granted through portions of the sale area during the contract period, provided they do not interfere with the operations of the previous purchaser.

6. Title to the forest products covered by any contract will not pass to the purchaser until such products are paid for.

7. Cash deposits in advance of cutting will be required. If at any time the stumpage value of the timber cut and unpaid for shall exceed the total amount then on deposit with the Indian Service, an additional deposit shall be required. At the close of each month a statement of all timber cut during the month will be rendered to the purchaser as a demand for payment of the full stumpage value of the timber covered by such statement. As soon as payment is made of the amount covered by such statement, the full amount previously deposited will become available as an advance deposit on timber cut subsequent to the period covered by such statement. At any time that the stumpage value of the timber cut shall exceed the amount of advance deposit cutting operations shall be suspended.

8. The general advance deposits required by a contract which includes both allotted and unallotted land will be credited so far as necessary on allotments cut during the period covered. The fact that special advance payments have been made on allotments which are about to be cut will not operate to reduce the size of the required general advance deposit, but rather will postpone the necessity of making demand for it until the advance payments on the particular allotments being cut have also been exhausted. The deposit made with the bid for the timber will be applied as a general advance deposit.

9. The areas to be logged in any season may be designated by the officer in charge when in his judgment this is necessary to prevent deterioration from fire, worms, or other cause or

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to insure the logging of the sale unit in such manner as to fully protect the interests of the United States and the Indians. When logging is begun on an allotment or natural logging unit, it will not be discontinued and started elsewhere without the written consent of the officer in charge.

10. **Selective logging,** or the logging of areas in such manner as to preserve a part of the merchantable timber, promote the growth of young trees, or preserve the forest cover, will be practiced on all lands chiefly suitable for the production of timber crops. Live trees of diameters below those named in the contract may be designated for cutting, and larger trees may be reserved from cutting in the discretion of the officer in charge. If live trees which are not designated for cutting are cut, or are seriously injured through lack of care, they will be double scaled and so charged and paid for. In the discretion of the officer in charge, a strip not exceeding three hundred (300) feet in width on each side of streams, roads, and trails and in the vicinity of camping places and recreation grounds may be reserved, in which little or no cutting will be allowed.

11. **All dead trees** standing or fallen which contain one merchantable log or more will be logged for their merchantable contents, and wherever selective logging is required by the contract the purchaser will fell all other dry trees before the slash is burned.

12. **Firewood and improvements** will be made as far as possible from unmerchantable material, and material so used will not be charged to the purchaser. The use of such material from allotments may be restricted in the discretion of the officer in charge. Wood and improvements taken from merchantable material will be scaled or measured, charged, and paid for at its maximum value.

13. **Young growth** will be protected as far as possible in every branch of the logging operations, and its use in the construction of improvements may be restricted by the officer in charge.

14. **Stumps** will be cut low so as to avoid waste, and the mean height of any stump will not exceed one-half its diameter, except where because of defect or deformity this height is considered impracticable by the officer in charge, provided that the minimum height required will be twelve inches.

15. **Waste** in high stumps, butts, tops, breaks, skids, and partially sound logs and all trees designated for logging which are not logged and all trees which are left felled or lodged or badly damaged by the logging operations will be scaled for their merchantable contents and charged against the purchaser. All cutting shall be done with a saw when possible.

16. **Carelessness** on the part of fellers or other employees of the purchaser that results in unnecessary breaking of trees will be penalized by scaling such trees full as if they had not been broken.

17. **The log lengths and products** taken from each tree will be such as to completely utilize the merchantable material in the tree and to yield the maximum stumpage value. Trees improperly cut into lengths or products of a lesser value shall be scaled, counted, or measured as if cut so as to yield the maximum value.

18. **The Scribner Decimal C** log rule will be used in scaling logs. The rule will be read to the nearest inch on the average top diameter inside bark. Logs exceeding the maximum length allowed by a contract will be scaled as two or more logs, with proper allowance for the increase in diameter at the points of division.

19. **The overlength** allowed on legs for trimming will not exceed one inch to each four feet of length. Logs which overrun this allowance will be scaled as if cut two feet longer. Logs longer than the maximum scaling length named in the contract will be scaled as if bucked into two or more shorter logs and with the top diameters they would actually have if so cut.

20. Proper deductions will be made for rot, shake, hollow, and other defects which make a log partially unmerchantable, including sweep exceeding one inch in each four feet of log length, but deductions will not be made for any defect or damage due to the act or neglect of the purchaser or his employees.

21. A check scaler employed by the purchaser may at hours convenient to the scaler and with the consent of the officer in charge compare his scale of logs with that of the scaler. A copy of the regular scale reports will be furnished to the purchaser through the officer in charge.

22. For convenience in scaling the logs or other products will be bunched as the scaler may direct on the land where cut or at the landing or point of shipment and will not be moved therefrom until he has scaled, numbered, and stamped them. Logs that are moved contrary to the scaler's instructions will be double scaled. Where a separate record of the scale of timber from an allotment or other area is necessary, the logs cut from such area will be marked by the purchaser with a distinctive brand as prescribed by the officer in charge.

23. A merchantable log is any log that will manufacture one-third or more of its total contents into sound lumber eight feet and longer, except as special provision is made in a particular contract. More defective logs and logs smaller than the merchantable size set in the contract will be culled if left in the woods, but any such logs that are taken for manufacture or sale will be scaled for their actual sound contents of lumber of any length. Any logs taken by the purchaser which are smaller than the minimum scaling length or diameter given on the log-scale rule will be scaled for their merchantable contents.

24. Railroad ties taken by the purchaser under a contract in which tie prices and specifications are not fixed will be scaled or counted as follows:

> Eight-foot ties made from logs nine to twelve inches top diameter will be counted as thirty to the thousand feet board measure and six and one-half foot ties as thirty-eight to the thousand. Ties made from logs over twelve inches top diameter and long ties will be scaled. Ties made from logs less than nine inches top diameter will be counted sixty ties eight feet long and seventy-five ties six and one-half feet long to the thousand feet.

25. The slash resulting from the logging operations, including all branches up to four inches in thickness lopped from tops and logs, will at the time of skidding be piled compactly and away from reserved trees on the whole area to be selectively logged and on a strip at least ten rods wide around all other logging areas in units not larger than quarter sections, unless some other method of slash disposal is provided in the contract.

26. Burning of the slash by the purchaser will be done at such times and in such manner as may be required by the officer in charge, who may at that time assume direct charge of the crew of the purchaser engaged at the work of burning. Slashing will not be burned during any period of fire danger. Whenever fire runs through a slashing, except in compliance with the instructions of the officer in charge the purchaser may be required to lop or to pile and reburn the slash.

27. Unsatisfactory disposal of the slash will be cause for the officer in charge to suspend all operations of the purchaser until the unsatisfactory condition is corrected.

28. Forest fires on the sale area or adjacent lands during the contract period will be prevented or suppressed by the purchaser, his employees and subcontractors, whenever possible. When called upon by an authorized forest officer, they will work under his directions to suppress fires. If the purchaser or his employees or subcontractors were not directly or indirectly responsible by act or neglect for the origin or the spread of the fire, reimbursement will be made, except that such reimbursement shall not exceed one-half the cost of suppression within the sale area or within one-half mile of the same.

29. **Donkey logging** may be permitted in the discretion of the Commissioner of Indian Affairs. The ground around the donkey engine will at each setting be cleared of dry trees for a distance of ten rods and of all other combustible material for a distance of fifty feet in all directions during the season from May 1 to September 30 and any other season of fire danger.

30. **All steam engines** not burning oil for fuel during the period from May 1 to October 15 and all other seasons of fire danger will be equipped with spark arresters acceptable to the officer in charge, and, excepting locomotives, will have a steam force pump with not less than one inch discharge, one hundred feet of serviceable one-inch hose, six twelve-quart pails, six shovels, and a constant supply of not less than the equivalent of twelve barrels of water. This equipment will be suitable for fire-fighting purposes and kept in serviceable condition and used when necessary for fighting fires.

31. **A watchman** employed by the purchaser and kept on duty during the noon hour at each engine in actual use and not burning oil, and during the night if fires are kept up, may be required by the officer in charge during the period from May 1 to October 15 and any other period of fire danger.

32. **Rigging** will not be slung on trees reserved from cutting without the use of bushing, and only in a manner satisfactory to the officer in charge.

33. **Clearing the right of way** of the logging railroad and its spurs and the careful burning of all combustible material for a distance of fifty feet on each side of the track is required of the purchaser unless the officer in charge shall, in writing, prescribe a lesser width. And the purchaser shall for such periods as may be required by the said forest officer in charge patrol all railroad tracks after the passage of each locomotive.

34. **The vicinity of logging camps** and stables will be kept in a clean and sanitary condition, and rubbish will be removed and properly burned or buried during the occupancy and upon the removal of the camps and stables.

35. **Streams** will not be obstructed by felled trees or otherwise except by the improvements hereinbefore provided for, nor will they be polluted by sawdust, manure, or any other refuse from a camp or mill.

36. **Damage to land or other property** of the Indians or the Government resulting from rights of way, dams, and other improvements or operations of the purchaser will be appraised by the officer in charge, and if not offset by the value of the permanent improvements made by the purchaser will be charged against the purchaser.

37. **Existing telephone lines, fences, roads, trails,** and other improvements will be protected as far as possible in the logging operations, and whenever they are broken or obstructed the purchaser will promptly repair the damage. If he fails to make the repairs promptly, the officer in charge may make the repairs and purchasers may be charged with double the expense thereof.

38. **Telephone lines** constructed by the purchaser within the Indian reservation will be open to the free use of all Indian Service officers for official business, and the purchaser may for their construction and repair cut and use free of charge all necessary poles which are not otherwise merchantable and subject to regulation by the officer in charge.

39. **Improvements necessary to execute his contracts** such as camps, sawmills, railroads, roads, telephone lines, chutes, bridges, sluices, and dams may be constructed and maintained by the purchaser on and across the contracted area and other tribal lands, subject to regulation by the Commissioner of Indian Affairs.

40. **Free transportation** of Indian Service employees engaged in official business will be allowed over all such railroads, and such employees may, at their own risk, operate hand cars or speeders over the track in such manner as not to interfere with the use of the railroad by the purchaser.

41. Improvements already on the area or on other lands of the reservation and which are necessary for logging purposes may be used by the purchaser, subject to regulation by the Commissioner of Indian Affairs.

42. The time limit for the removal of the improvements and other property of the purchaser is one year after the expiration of the contract. After that time the title to improvements, including camps, will attach to the land, and no personal property of the purchaser will thereafter be removed except with the written consent of the officer in charge: *Provided*, That improvements necessary for the logging of other Indian timber may be left for such time and on such terms as may be prescribed by the Commissioner of Indian Affairs.

43. Extension of time for the performance of any contract may be granted the purchaser by the officer approving the contract, in his discretion and subject to such conditions as he may impose.

44. If extension of time to cut and remove the timber is not granted by the officer approving a contract, the purchaser can cut no timber after the expiration of the contract, but he may remove the timber, previously cut and paid for, within one year of the expiration of the contract. If not removed within the time allowed, the title will revert to the vendor notwithstanding the purchaser may have paid for the timber.

45. Assignment of any contract in whole or in part by the purchaser will not relieve him of his contract obligations unless the assignment is approved by the officer approving the contract nor until the bond is satisfactorily renewed.

46. Refunds of overpayments will be made to the purchaser by the approving officer provided all terms of the contract have been fulfilled, and the approving officer may also, in his discretion, reduce the amount of timber that is required by the contract to be paid for and removed in any one year.

47. Indian labor will be employed by the purchaser at the same wages as other labor and in preference to other labor not already in his employ whenever the Indian labor seeks employment and is competent.

48. All regulations relative to the maintenance of order on Indian reservations and the introduction of intoxicating liquors will be complied with by the purchaser.

49. In compliance with law and Executive order, no Member of Congress or any Delegate thereto shall have any interest, direct or indirect, in the contract of which these regulations are a part (sec. 3741, R. S., and secs. 114–116, act of Mar. 4, 1909, 33 Stat. L., 1109), and no person undergoing a sentence of imprisonment at hard labor shall be employed in carrying out any contract (Executive order, May 18, 1905). The cutting or removal of timber from Indian Lands in breach of the terms of any contract and without other lawful authority, or the leaving of fires unextinguished, will render the offenders liable to the penalties prescribed by section 6 of the act of June 25, 1910 (36 Stat. L., 857). Section corners, quarter section corners, or meander posts on any Government line of survey shall not be destroyed, defaced, changed, or removed to any other place, nor shall any witness trees or any tree blazed to mark the line of a Government survey be cut down in the carrying out the provisions of this agreement. (See sec. 57, act of Mar. 4, 1909, 35 Stat. L., 1099.)

50. The expenses of examining, advertising, marking, scaling, and protecting the timber and of general supervision of the sale will be paid out of a timber expense fund, for which purpose not over ten per cent of the gross proceeds of the sale will be set aside.

51. All the records of the purchaser and his subcontractors pertaining to the logging operation and the manufacture and sale of the products thereof will be open to inspection at any reasonable time by the officer in charge or other officer designated by the Commissioner of Indian Affairs, and the information so obtained will be regarded as confidential. The pur-

chaser will furnish the officer in charge, at such times as he may request, the amount of lumber sold and the average grade prices received f. o. b. the mill during certain periods; also the amount of box lumber sold, with average price per M; the amount of ties and timber sold, with average price per M; and the amount of by-products sold and the total receipts for same.

52. Suspension of the purchaser's operations may be made by the officer in charge if any requirements of the contract and of these regulations are disregarded and until there is satisfactory compliance. Persistent failure to comply with any one of the requirements of the contract or regulations after written notice addressed to the purchaser by the superintendent or the officer in charge will be ground for revocation by the officer approving the contract of all rights of the purchaser under this and other contracts and the forfeiture of his bond and of all moneys paid, and the purchaser will be liable for all damage resulting from his breach of contract.

53. Complaints by the purchaser arising from any action taken by the forest officer in charge under the terms of any contract will not be considered unless made in writing to the Commissioner of Indian Affairs within thirty (30) days of the alleged unsatisfactory action.

54. The decision of the officer approving any contract will be final in the interpretation of the contract and of the regulations, and the terms of the contract or regulations can not be varied in any detail without the written approval of the officer approving the sale.

55. Whenever any bond furnished to guarantee obligations under a sale shall be unsatisfactory to the officer approving the sale he may require a new bond which shall be satisfactory to him.

56. Failure of the purchaser to complete his contract or to log promptly an area damaged by fire, wind, insects, or other causes, or the commission by him of any act for which the officer approving his contract shall declare the contract forfeited, will render the purchaser and his bondsmen liable for the depreciation in the value of the remaining timber on an estimate of value and quantity to be made under the direction of the officer approving this contract.

The above General Timber Sale Regulations are hereby prescribed for use in all contracts for the sale of timber from Indian lands except as special provision shall be made by the Commissioner of Indian Affairs or the Secretary of the Interior in particular sales.

CATO SELLS, *Commissioner.*

Approved, April 10, 1920,
S. G. HOPKINS, *Assistant Secretary.*

WASHINGTON : GOVERNMENT PRINTING OFFICE : 1926

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Circular Letter

General Forest Regulations.

UNITED STATES
DEPARTMENT OF THE INTERIOR
Office of Indian Affairs
Washington

May 23, 1936

To Superintendents and Other Field Personnel:

There are enclosed herewith the new "General Forest Regulations", approved by the Secretary of the Interior on May 18, 1936. These regulations become effective immediately and supersede the "Regulations and Instructions for Officers in Charge of Forests on Indian Reservations", approved June 29, 1927.

(Sgd) E. J. Armstrong,

For the Commissioner.

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Shoshone Indian Agency

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UNITED STATES
DEPARTMENT OF THE INTERIOR
Office of Indian Affairs
Washington

April 23, 1936

GENERAL FOREST REGULATIONS

Policy

The following objectives are to be sought in the management of Indian forests:

(a) The preservation of Indian forest lands in a perpetually productive state by providing effective protection, preventing clear cutting of large contiguous areas, and making adequate provision for new forest growth when the mature timber is removed.

(b) The regulation of the cut in a manner which will insure method and order in the harvesting of the tree capital, so as to make possible continuous production and a perpetual forest business.

(c) The development of Indian forests by the Indian people for the purpose of promoting self-sustaining Indian communities, to the end that the Indians may receive from their own property not only stumpage, but also the benefit of whatever profit it is capable of yielding and whatever labor the Indians are qualified to perform.

(d) The sale of Indian timber in open competitive markets on reservations where the volume produced by the forest annually is in excess of that which is practicable of development by the Indians, or where fire damage, insect infestation, disease, overmaturity, or other causes require extensive and rapid harvesting of the timber in order to prevent loss.

(e) The preservation of the forest for scenic purposes along public highways, in the vicinity of Indian or white communities, and wherever the recreational or aesthetic value of the forest seems to exceed its value for the production of forest products.

(f) The management of the forest in such a manner as to retain its beneficial effect in regulating runoff and minimizing erosion.

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Shoshone Indian Agency

Proceeding in accordance with this general policy, the development of reservation timber will not be authorized until practical methods of cutting are prescribed which will assure the perpetuation of the forest, prevent unnecessary waste, and make possible effective protection against destructive agencies. Cutting will be given priority in those stands of timber which are deteriorating as the result of fire damage, disease, insect infestation, overmaturity, or other causes. Whenever practicable, from 25 to 60 percent of the merchantable timber volume will be left standing in order to protect the site, provide seed for a new stand, and make possible a second cut before the reproduction matures.

Clear cutting of large contiguous areas will not be permitted, except on lands which will be used for agricultural development. It is the policy of the Indian Service to promote the use of logging methods which will insure a reasonable degree of protection for reserve stands and to limit the use of donkey engines and other high power machinery to areas upon which the use of animal or tractor logging is not feasible. Wherever circumstances necessitate the use of high power machinery which results in destructive logging, cuttings will be so broken up by stands of green timber as to secure adequate protection against fire and ample provision for reseeding the cutover area.

Inferior species of low commercial values should generally be withheld from cutting until a reasonable consumer demand develops. Species of this character are ordinarily most valuable when left standing in the forest because they protect the ground, provide seed, and do not lower the general value of the stumpage to be harvested. Accordingly such species should generally be reserved for utilization at a later date, when they will have a positive value, and only those trees marked for cutting which if left standing would be injurious to the future development of the forest. Areas containing large volumes of inferior species should be excluded from sales wherever possible.

The Indian Service is definitely committed to a policy of sustained yield forest management. This policy will be given practical expression through the medium of forest working plans for all reservations of major importance from an industrial forestry standpoint. Such working plans should contain a statement of how the policies of the Indian Service are to be applied on a given Indian forest, with a definite program of action for a specified period in the future. These plans will express the objectives to be attained in timber management, thus giving the necessary basis for consistent action over the long period necessary to grow a timber crop.

Regulations

The following regulations are hereby made effective as of the date of approval hereof, for all Indian lands under the jurisdiction of the Office of Indian Affairs, except as these regulations may be superseded by special instructions to particular reservations or by provisions of special law, Tribal Constitutions, By-laws or charters, heretofore or hereafter ratified, or any tribal action authorized thereunder.

1. Trespass Law.

"Whoever shall unlawfully cut, or aid in unlawfully cutting, or shall wantonly injure or destroy, or procure to be wantonly injured or destroyed any tree growing, standing, or being upon any land of the United States which, in pursuance of law, has been reserved or purchased by the United States for any public use, or upon any Indian reservation or lands belonging to or occupied by any tribe of Indians under the authority of the United States, or any Indian allotment while the title to the same shall be held in trust by the Government, or while the same shall remain inalienable by the allottee without the consent of the United States, shall be fined not more than $500, or imprisoned not more than one year, or both." (35 Stat. 1098 Sec. 50 and 36 Stat. 855-57 Sec. 6).

2. Trespass Procedure.

All forest officers or other employees shall report promptly in writing any violation of the trespass law. Superintendents shall seize all timber unlawfully cut from Indian land, mark the same, forbid its removal, and promptly report to the Commissioner of Indian Affairs the name and post office address of the trespasser, the names and post office addresses of all witnesses of such depredations, and if possible furnish affidavits by such witnesses as to their knowledge of the facts, so that if necessary the case may be reported to the Department of Justice for the institution of a civil action for the recovery of damages, a criminal prosecution under the provisions of the act above cited, or the commencement of both civil and criminal actions. If a civil trespass action involves timber with a stumpage value of $500 or less, the superintendent should ascertain what terms of settlement may be made; and if he deems it desirable to the welfare of the Indians he may settle the case without going into court.

3. Fire Law.

"Whoever shall build a fire in or near any forest, timber, or other inflammable material upon the public domain, or upon any Indian reservation, or lands belonging to or occupied by any tribe of Indians under the authority of the United States, or upon any Indian allotment while the title to the same shall be held in trust by the Government, or while the same shall remain inalienable by

the allottee without the consent of the United States, shall before leaving said fire totally extinguish the same; and whoever shall fail to do so shall be fined not more than one thousand dollars, or imprisoned not more than one year, or both." (35 Stat. 1098 Sec. 53 and 36 Stat. 855-57 Sec. 6).

Violations of the aforementioned act should be promptly investigated, affidavits and other information obtained, and a suitable report made to the Commissioner of Indian Affairs so that if necessary the case may be submitted to the Department of Justice for action.

4. Protective Measures.

Forest officers must make every possible effort to extinguish immediately any fire of which they have knowledge. Every superintendent is authorized to hire temporary men, purchase tools and supplies, and pay for their transportation from place to place to extinguish a fire. No expense for fighting a fire outside a reservation must be incurred unless the fire threatens the reservation, and special authority must be obtained for any expenditure in excess of $1,000. Fire fighters should be paid by the hour, actual working time, at the current local rates. The time consumed in going to and from the fire will ordinarily be included. When subsistence is furnished, the rate of pay should be reduced accordingly. A report on Form 5-493 should be made immediately after the extinguishment of any fire and filed in the agency office.

5. Slash Disposal.

Measures designed to reduce the fire danger from slash created by the cutting of timber are a necessary insurance against the loss of those trees left standing and the new trees which may germinate. An effective method of slash disposal is therefore an essential feature of any timber sale contract or timber cutting permit. On areas where selective logging or partial cutting is employed, the standard brush disposal method is by lopping, piling, and burning the brush. It is of major importance that the piles should be so located that they may be burned without injury to the reproduction or the reserved trees. Broadcast burning may only be employed on the restricted clear cut areas and should always be controlled by fire lines or other effective barriers.

6. Sustained Yield Management.

"The Secretary of the Interior is directed to make rules and regulations for the operation and management of Indian forestry units on the principle of sustained yield management. ....." (48 Stat. 984 Sec. 6).

In conformity with the terms of this Act, and 36 Stat. 857 Sec. 7, hereafter quoted, no Indian timber may be developed either by Indians or by white men, unless it is operated on a sustained yield basis.

7. Development by Indians.

It is the policy of the Indian Service to encourage the development of Indian timber by the Indian People for the purpose of promoting self-sustaining Indian communities, and in conformity thereto the conducting of Indian logging operations and Indian sawmill operations is hereby authorized. Such operations may be organized and initiated, subject to the consent of the Indians in general council, whenever general appropriations for industrial development, special appropriations for sawmill development, reimbursable loan funds, or Indian tribal funds may be made available.

8. Timber Sale Law.

"That the mature living and dead and down timber on unallotted lands of any Indian reservation may be sold under regulations to be prescribed by the Secretary of the Interior, and the proceeds from such sales shall be used for the benefit of the Indians of the reservation in such manner as he may direct: Provided, That this section shall not apply to the States of Minnesota and Wisconsin." (36 Stat. 857 Sec. 7).

"That the timber on any Indian allotment held under a trust or other patent containing restrictions on alienations may be sold by the allottee with the consent of the Secretary of the Interior and the proceeds thereof shall be paid to the allottee or disposed of for his benefit under regulations to be prescribed by the Secretary of the Interior." (36 Stat. 857 Sec. 8).

9. Sales from Unallotted and Allotted Lands.

On reservations where the volume produced by the forest annually is in excess of that which is practicable of development by the Indians, or where the stand is rapidly deteriorating as a result of fire damage, insect infestation, disease, over-maturity, or other causes, the sale of Indian timber in open competitive markets will be authorized; provided consent is given by the Indians in general council or by their duly authorized representatives for tribal, and by the allottees for allotted timber. Sales from unallotted lands, allotted lands or a combination of these two ownerships, having a stumpage value of over $100, will not be authorized until an examination of the timber to be sold has been made by a qualified forest officer and a complete report setting forth all pertinent information has been submitted to the officer or officers authorized to approve the contract as hereinafter provided.

10. Advertisement of Sales.

All sales of timber of a stumpage value greater than $100 shall be made only after due advertisement and under sealed bids, and such advertisement must be approved by the officer who will approve the contract. If the stumpage value of the timber offered does not exceed $1,000, the advertisement may be

made by posters and circular letters. If the stumpage value exceeds $1,000, the advertisement must be made in at least one newspaper of general circulation in the locality where the timber is situated. For sales in which the stumpage value of the timber does not exceed $10,000, the advertisement shall be for not less than 15 days; for sales exceeding $10,000 but not over $100,000, not less than 30 days; and for all sales exceeding $100,000, not less than 60 days.

11. Deposits with Bids.

A cash deposit shall be submitted with each proposal for the purchase of Indian timber, either allotted or unallotted. Such deposit shall be at least 20 percent of any estimated stumpage value which is less than $1,000; at least 10 percent of any estimated stumpage value between $1,000 and $10,000; at least 5 percent of any estimated stumpage value between $10,000 and $100,000; and at least 3 percent on any estimated stumpage value exceeding $100,000. Every deposit in excess of $500 must be in the form of a duly certified check on a solvent national bank, drawn payable to the order of the superintendent having jurisdiction over the timber. Smaller deposits may be in cash, or by a duly certified check. All of these deposits are required as a guaranty of good faith, and when a bond is not executed the deposit of the successful bidder will be retained until the contract is completed. In the final settlement the deposit will be credited as a portion of the whole amount due for the timber purchased and any balance returned, provided the purchaser has faithfully performed the terms of the contract. If a bond is furnished and accepted, the deposit will be credited as a first installment in payment for the timber. The cash or certified checks deposited will be returned to depositors whose proposals are not accepted.

12. Acceptance and Rejection of Bids.

In ordinary circumstances the high bid received in connection with any advertisement issued under authority of these regulations shall be accepted. However, the officer authorized to approve the contract shall have the right to reject the high bid and readvertise if he considers the high bidder to be unqualified to fulfill the contractual requirements of the advertisements. The right is also reserved by the approving officer to waive minor technical defects in advertisements and proposals.

13. Sales to Indians without Advertisement.

Open-market sales to Indians without advertising may be made for stumpage not exceeding $5,000 in value; provided that in the case of stumpage on tribal lands the Indians in general council or their representatives to whom they specifically delegate this authority shall consent, and the allottees shall consent in the case of stumpage on Indian allotments. The stumpage prices in connection with such open-market sales shall be established by the approving officer after due appraisal procedure; provided, that the timber contract forms executed under authority hereof shall be those stipulated for the sale of timber under Section 14, and carry the bond requirements stipulated under Section 16.

14. Contracts.

For sales of timber of a stumpage value greater than $100 the regular contract forms must be used unless a special form for a particular sale is approved by the Commissioner of Indian Affairs or the Secretary of the Interior. The regular forms provide for a certain flexibility to meet variable conditions, but no essential departure from the fundamental requirements of such contracts may be authorized by a superintendent or other field officer. When stumpage is purchased from unallotted lands by Indians or others, form 5-487 should be used, and when stumpage is purchased from allotted lands, form 5-489 should be used. Form 5-481 should be used where logging operations are conducted by an Indian, either on his own allotment or on tribal lands, and the product sold in the form of logs, bolts or cordwood either on the land after severance or delivered to some other point in such form. When timber is cut from unallotted land or from an allotment held under a trust patent or other patent containing restrictions on alienation the contract should require that the proceeds be paid into the hands of the superintendent and an accounting be made therefor.

All contracts should be executed in sextuplet by the duly authorized representatives of the tribe or by the individual allottees concerned and by the purchaser. If a contract is approved by the superintendent, or by the superintendent and concurred in by the regional forester, the original copy should be forwarded to the General Accounting Office, and one copy each mailed promptly to the Indian Office and to the regional forester. If the contract requires the approval of the Commissioner of Indian Affairs or the Secretary of the Interior, all copies must be forwarded promptly to the Indian Office. Copies for agency and regional forestry files, for purchaser, and for allottee will be returned if the contract is approved.

15. Approval of Contracts.

Contracts covering sales of timber having a stumpage value not exceeding $500 may be approved by the superintendent. Contracts covering sales of timber having a stumpage value between $500 and $10,000 should be approved by the superintendent and concurred in by the regional forester. In case of nonconcurrence, final decision shall be made by the Commissioner of Indian Affairs. Contracts covering sales of timber having a stumpage value between $10,000 and $100,000 should be approved by the Commissioner of Indian Affairs. Contracts covering sales in which the stumpage value exceeds $100,000 shall be made only with the express approval of the Secretary of the Interior. Contracts covering individual allotments executed under authority of an approved general contract will be approved by the superintendent on form 5-489, with such provisions incorporated therein as the approving officer or officers of the general contract shall stipulate.

16. Bonds.

In sales in which the stumpage value of the timber does not exceed $5,000 no bond will ordinarily be required, but the initial deposit will be held until the contract is completed; in sales in which the stumpage value exceeds $5,000 but is not over $10,000 a bond of approximately 20 percent of the

value of the timber will be required; in sales in which the stumpage value exceeds $10,000 but is not over $100,000 a bond in an amount of approximately 10 percent of the estimated value of the timber will be required; and in sales in which the stumpage value exceeds $100,000 a bond will be required in an amount to be fixed by the Secretary of the Interior.

17. Payments for Timber.

Payments for timber will be required in advance of cutting, either as a single payment or in the form of installments. In sales of a stumpage value not greater than $1,000, the number of installments shall not exceed 5; in sales of a stumpage value greater than $1,000 but not over $10,000, the number of installments shall not exceed 10; and in sales of a stumpage value greater than $10,000 but not over $100,000, the number of installments shall not exceed 20. In sales in which the stumpage value is greater than $100,000, the number of the installments shall be determined at the time such sales are authorized, provided that the amount of installments so fixed shall not be less than $5,000 each.

The advance installments or deposits above stipulated are required for the purpose of providing a flexible working balance against which scale reports covering both unallotted and allotted timber may be credited as the timber is cut. No further cash advances are required in connection with the sale of unallotted timber. However, allotment contracts should provide for advance payments to each allottee, and the advances so received should be taken into the superintendent's accounts as "individual Indian money." In allotment sales of three years duration or less an advance payment of 10 percent of the estimated value of the timber, in addition to the regular advance deposits, should be stipulated. In sales extending for a period in excess of three years, further advance payments should be required. In the absence of specific instructions to the contrary from the Commissioner of Indian Affairs, such allotment contracts should provide for the payment of 10 percent of the estimated value of the timber within thirty days of approval, an additional 15 percent within three years thereafter, and a further additional 25 percent within six years of the date of approval. The advance payments so made will be credited against the allotted timber as such timber is cut and scaled.

18. Time for Cutting and Removal of Timber.

The maximum periods which shall be allowed after the date of the contract for the cutting and removal of the timber purchased shall be as follows: For sales of $1,000 stumpage value or less, one year; for sales of over $1,000 but not exceeding $10,000, three years; for sales over $10,000 but not exceeding $100,000, eight years; and for sales exceeding $100,000, the number of years shall be fixed in the advertisement. However, the cutting and removal of any amount shall not be so distributed over the allowed period as to render the cost of supervision unreasonably high.

19. Deduction for Administrative Purposes.

In all sales of timber from either allotted or unallotted land a sufficient deduction will be made from the gross proceeds to cover the cost of examining, supervising, advertising, collecting, disbursing, accounting, marking, scaling, caring for the slash, and protecting from fire the timber and young growth left standing on the land being logged or upon adjacent land. Unless special instructions have been given by the Commissioner of Indian Affairs as to the amount of the deduction or the manner in which it is to be made, 8 percent of the gross amount received for the timber sold under regular supervision from allotted or from unallotted land will be deducted by the superintendent to cover administrative expenses as required by the act of February 14, 1920 (41 Stat. 415). When timber on either allotted or unallotted land is sold for a lump sum on an estimate in such a manner that no administration by the Indian Service subsequent to the sale is required, a deduction of 3 percent of the sale price will be made to cover the cost of estimating the timber and effecting the sale.

When the ownership of funds is definitely known, official receipts issued for the proceeds of timber sales shall show separately the amount to be credited to the tribal fund, the amount to be credited to individual Indians, and the amount deducted to reimburse the United States for administrative expenses. When the ownership of funds is not definitely known the official receipt should show the funds placed in "special deposits." Subsequently, when it is determined by receipt of timber-scale reports how these funds should be distributed, a journal voucher will be prepared transferring such funds to the proper account. The entire proceeds from unallotted timber will be deposited in the treasury as "sundry receipts." The amounts deducted to cover administrative expenses will be credited to the United States as "miscellaneous receipts." The net proceeds from unallotted timber, after this deduction has been made, will take the title of "Indian moneys, proceeds of labor", or some other title required by special legislation applicable to the particular reservation from which the timber was removed. The proceeds from allotted timber, after deducting the administrative expenses, will be taken up on the superintendent's account as "individual Indian money." The amounts deducted to cover administrative expenses will be taken into the superintendent's accounts as "sundry receipts", will be deposited into the Treasury of the United States under that title, and will thereupon be credited to the United States as "miscellaneous receipts." For detailed explanation of this accounting, reference should be made to General Instructions for the Preparation of Timber Records, approved July 1, 1924.

20. Permits.

Superintendents will insist that all timber cutting, except cutting of allotted timber for the personal use of the allottee, not done under a formal contract as provided in Section 14, shall be done under the regular permit form 5-924. The permit form was devised as a convenience in meeting the requirements of Indians and other persons for limited quantities of timber for domestic, agricultural, and grazing purposes. It must not be used as a substitute for the regular timber contracts. The maximum value of the stumpage which may be cut

under permit in one year by any individual shall not exceed $100. Permits for cutting on unallotted lands to individual Indian operators who need either dead or living timber for personal use may be made without stumpage charge, but all timber cut in this manner should be done under permit and the trees to be cut should be designated by a forest officer or other agency employee. All permits for unallotted timber must be approved by the duly authorized representatives of the tribe and all permits for allotted timber must be approved by the allottee or his legal representative.

21. Soil Conservation.

Soil erosion constitutes a serious menace on many of the Indian forest lands. Its prevention should receive primary consideration in the management of Indian forests. Heavy cuttings should generally not be permitted on areas especially susceptible to erosion, and such cuttings as may be conducted should be governed by a maximum degree of care in the protection of the forest and ground cover. Where gulleys have started they should be plugged with brush. In certain cases where the danger from erosion is especially severe, the brush should be scattered in such manner as to form a protection cover instead of disposing of it by the usual piling and burning.

Logging roads, truck trails, chutes, landing grounds, and other improvements incident to the development of the timber should be located so as to cause the minimum concentration of run-off. Steep grades should be avoided in all country with an appreciable erosion hazard. Rights of way should be slashed no wider than necessary, deep side hill cuts should be held to a minimum consistent with good location, and long tangents requiring a large amount of cutting and filling should be avoided. If in spite of these precautions, serious erosion does threaten, then more elaborate steps to spread water and to check silting will have to be undertaken. Conditions surrounding the erosion problem vary so widely on the different forested reservations that even generalities with respect to prevention and control are difficult of formulation. Accordingly, the local officials on each reservation where erosion has developed should get such expert advice as may be available to help formulate plans for the protection of the soil from serious depletion.

22. Recreation.

In the making of timber sales careful consideration should be given as to whether it will be more beneficial for the Indians to have a specific area logged or reserved for recreational and scenic purposes. Cutting of timber along stocked streams should be carried out conservatively so as to disturb the environment of the fish as little as possible. A strip of timber should be reserved for at least 250 feet on the side of all highways in the ponderosa pine timber type and in the Lake States forests. In the large West Coast timber the reserved strip should be at least a quarter of a mile wide on either side of the road. In these strips no trees other than those which are dead or dying should be cut. Timber operations should never be permitted to interfere with Indian ceremonial sites.

Special Acts

The general act of June 25, 1910 (36 Stat. 855-857), does not repeal any provisions of precedent special acts applicable to particular reservations, and all requirements of special acts in conflict or at variance with the terms or spirit of the general law must be complied with. However, the regulations formulated to cover sales under the general act will be applied and enforced in all cases where the provisions are not in conflict with the terms of special acts. The mature living and dead and down timber may be sold under the act of June 25, 1910, from the unallotted lands of any reservation, except the Osages, the Five Civilized Tribes, and the reservations of Minnesota and Wisconsin.

Timber upon unallotted lands of reservations situated within the States of Minnesota and Wisconsin can not be sold under authority of the act of June 25, 1910, but dead and down timber may be sold under the act of February 16, 1889 (25 Stat. 673), and live or dead timber may be sold from the Menominee Reservation under the act of March 28, 1908 (35 Stat. 51), and from the Red Lake Reservation under the act of May 18, 1916 (39 Stat. 137).

Attention is directed to the following acts and decisions regarding timber on Indian reservations:

Act of May 18, 1916 (39 Stat. 158 Sec. 27). Requires that expenditure of tribal funds shall first be authorized by Congress.

Act of June 30, 1919 (41 Stat. 3). Restricts timber cutting on mineral lands under lease on Indian reservations in Arizona, California, Idaho, Montana, Nevada, New Mexico, Oregon, Washington, and Wyoming.

Act of September 20, 1922 (42 Stat. 857). Provides for the protection of timber controlled by the United States from fire, disease, or the ravages of beetles or other insects.

Decision of Comptroller General of the United States of December 17, 1931 — "There may be no legal modifications of the contract reducing the payments thereunder without express statutory authority to that effect, either with or without the consent of the Indians concerned."

Bad River Reservation. Act of August 1, 1914 (38 Stat. 605); Act of May 18, 1916 (39 Stat. 123, 157). On January 7, 1918, the United States Supreme Court decided the title of the La Pointe Indians to the sixteenth sections within the Bad River Reservation was superior to that of the state.

Colville Reservation. Act of August 3, 1916 (39 Stat. 672).

Five Civilized Tribes. Act of June 28, 1898 (30 Stat. 495); Act of January 21, 1903 (32 Stat. 774); Act of April 26, 1906 (34 Stat. 137). Act of August 24, 1912 (37 Stat., 497).

Flathead Reservation. Act of March 3, 1905 (33 Stat. 1048, 1081); Act of February 25, 1920 (41 Stat. 452). For decision as to use of proceeds of timber sales, see Decisions of Comptroller of Treasury, Volume 18, page 92[illegible].

Fort Belknap Reservation. Act of March 3, 1921 (41 Stat. 1355).

Fort Berthold Reservation. Act of June 1, 1910 (36 Stat. 455, 458).

Fort Hall Reservation. Act of March 3, 1911 (36 Stat. 1058 - 1064).

Jicarilla Reservation. Act of March 4, 1907 (34 Stat. 1413); Act of May 25, 1918 (40 Stat. 561).

Klamath Reservation. Act of March 4, 1933 (47 Stat. 1568).

Lac du Flambeau Reservation. Act of May 18, 1916 (39 Stat. 123, 157). See also Bad River Reservation above.

Menominee Reservation. Act of March 28, 1908 (35 Stat. 51); Act of March 3, 1911 (36 Stat. 1058 - 1076); Act of May 18, 1916 (39 Stat. 123, 157); Act of March 2, 1917 (39 Stat. 991); Act of May 25, 1918 (40 Stat. 561); Act of January 27, 1925 (43 Stat. 793); Act of March 4, 1925 (43 Stat. 1313); Act of June 15, 1934 (48 Stat. 964); Act of September 3, 1935 (49 Stat. 1085).

Nez Perce Reservation. Act of August 15, 1894 (28 Stat. 327, 330).

Pine Ridge Reservation. Act of May 27, 1910 (36 Stat. 440, 442).

Quinault Reservation. Act of June 6, 1934 (48 Stat. 910).

Red Lake Reservation. Act of May 18, 1916 (39 Stat. 123, 137); Act of May 25, 1918 (40 Stat. 561); Act of June 30, 1919 (41 Stat. 14); Act of June 5, 1924 (43 Stat. 412); Act of May 10, 1926 (44 Stat. 475).

Rosebud Reservation. Act of May 30, 1910 (36 Stat. 448).

Spokane Reservation. Act of May 29, 1908 (35 Stat. 458).

Tongue River Reservation. Act of June 3, 1926 (44 Stat. 690).

Umatilla Reservation. Act of March 3, 1885 (23 Stat. 340).

Uintah Reservation. Act of June 21, 1906 (34 Stat. 325, 376).

Yakima Reservation. Act of December 21, 1904 (33 Stat. 595 - 597).

(Sgd) John Collier,

Commissioner of Indian Affairs

Approved: May 18, 1936.

(Sgd) Harold L. Ickes,

Secretary of the Interior.

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Current timber sale regulations and standard timber contract provisions are located in the Indian Affairs Manual (53 IAM 4, Illustrations 3 and 4). Regulations and instructions governing timber cutting not under contract are located in 53 IAM 5.0.

APPENDIX F

Logging Contractors

NORTHERN CHEYENNE RESERVATION

LOGGING CONTRACTORS AND PURCHASERS

Name	Location	Cutting Date
Gail Bolson Livingston	Lame Deer, MT	1942-1945
H.O. Hayden	Kirby, MT	1942-1944
James C. Burns, Jr.	Lame Deer, MT	1943-1944
Livingston Saw and Planning Mill	Lame Deer, MT	1944-1948
Paul Siegfried*	Billings, MT	1947-1955
Albert Lalonde Company	Sidney, MT	1950
Tongue River Lumber Company (assigned to Leon W. and A.L. Perry)	Lame Deer, MT	1957-1972
Tongue River Lumber Company (assigned to Saunders Lumber Company in 1959-	Lame Deer, MT Hardin, MT	1958-1959 1959-1964)
Paul Siegfried	Lame Deer, MT	1964-1966
Black Lumber Company	Lame Deer, MT	1966-1977
Ashland Lumber Company	Ashland, MT	1969
Arness-Anderson Corp.	Ashland, MT	1978

*In 1953, Paul Siegfried moved his mill to Lame Deer, Montana.

APPENDIX G

Timber Sale Data*

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*The following timber sale data was compiled from diverse sources including timber sale data cards in the BIA Billings Area Office and in the BIA Central Office Branch of Forestry in Washington, D.C.; timber sale files (both active and inactive); Certificates of Completion; timber sale contracts; advertisements; annual reports; and general correspondence. In some instances, complete records of the timber sales could not be found. If that happened, the missing information is represented by a blank spot on the timber sale data forms.

Northern Cheyenne

TIMBER SALE DATA

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Sec. 15 & 22, T2 R42 (Tribal)	S1/2 S1/2 Sec. 15; N1/2 N1/2 Sec. 22; T2S, R42E	Gail Bolson Livingston	I-104-ind-3258

INDIAN OFFICE FILE NO.	CONTRACT APPROVED	CONTRACT EXPIRED
13693-42	2-27 19 42	12-31 19 42

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS:
19	8-15 19 42	

VOLUMES AND RATES

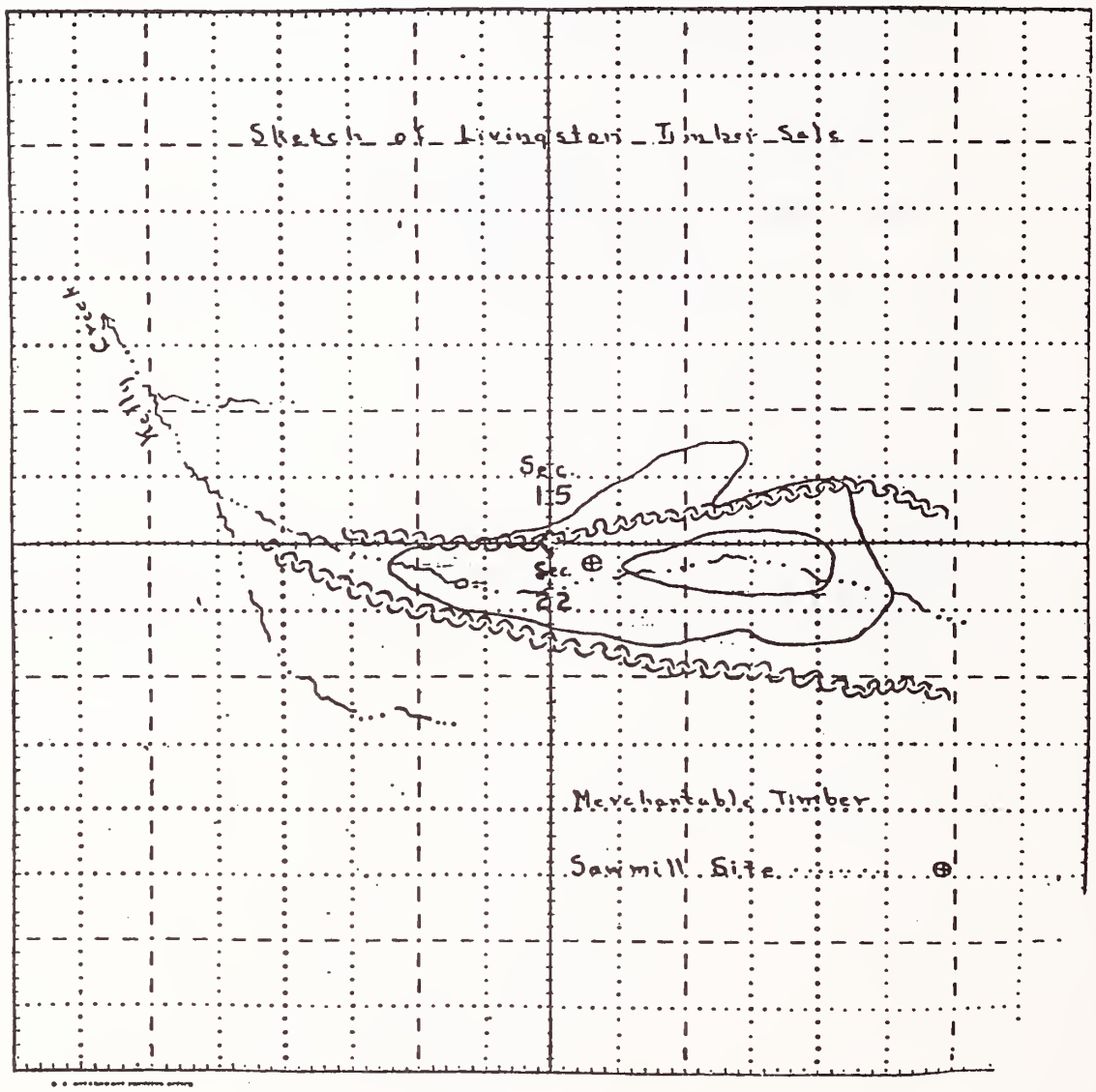
SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD FT.)	ACTUAL CUT VOLUME (BD FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.		165,000	175,220	3.00	Negotiated	3.00
TOTAL VOLUMES		165,000	175,220			

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
495.00	NA	495.00	525.66

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF INDIAN AFFAIRS
FOREST TOPOGRAPHER'S LARGE MAP SHEET

Tongue River Indian Reservation T. 2 S. R. 42 E. Sec. 15/22 Contour Interval, feet — Scale: 8 inches = one mile.

Cruiser RGS Date 2-2-42 Topographer RGS



Northern Cheyenne

TIMBER SALE DATA

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Tribal-in-Skunk Coulee	NE1/4, Sec. 20 T5S, R39E	H.O. Hayden, Kirby, MT	I-104-ind-3279

INDIAN OFFICE FILE NO.	CONTRACT APPROVED	CONTRACT EXPIRED
38811-42	8-3 19 42	6-30 19 43

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS:
19	3-20 19 43	*See below

VOLUMES AND RATES

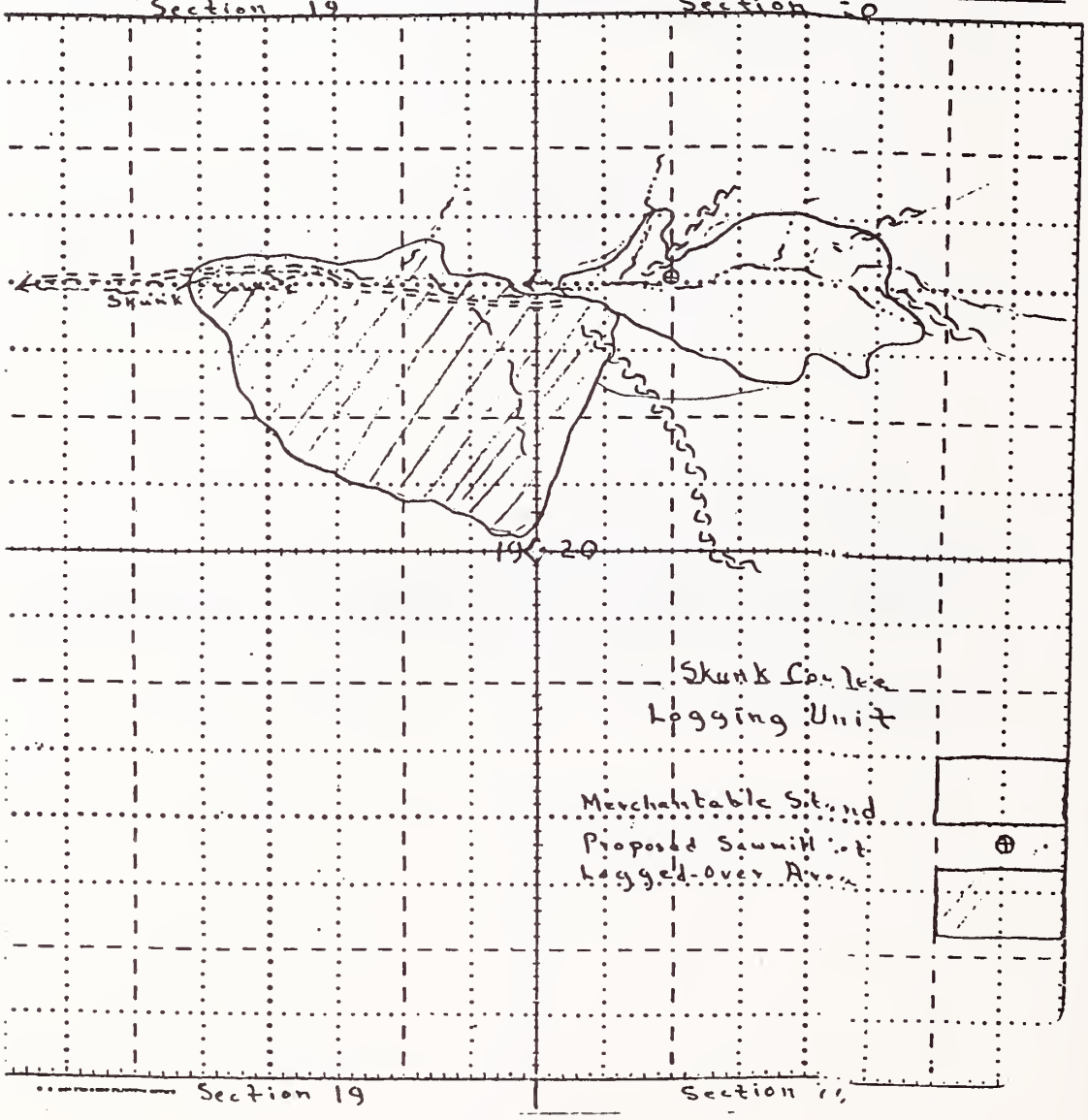
SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.		165,000	181,810		3.00	3.00
TOTAL VOLUMES		165,000	181,810			

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
	495.00	495.00	545.43

*In addition to 181,810 feet: additional 30,000 ft. milled for Indians on a toll basis as provided for in Contract.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF INDIAN AFFAIRS
FOREST TOPOGRAPHER'S LARGE MAP SHEET

Tongue River Indian Reservation. T. 55 R. 39E Sec. 19/20 Contour Interval, feet — Scale: 8 inches = one mile.
Cruiser Perry F. Skurza Dates 5-10-42 Topographer —



Northern Cheyenne

TIMBER SALE DATA

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
(Tribal) Kelly Creek	N1/2 N1/2 Sec. 22, T2S, R42E	Mrs. Gail Bolson Livingstor (Ind) Allottee 654	I-104-ind-3284

INDIAN OFFICE FILE NO.	CONTRACT APPROVED	CONTRACT EXPIRED
41635-42	8-15 19 42	6-30 19 43

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS:
19	3-20 19 43	*Awarded without advertising. See below.

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.		165,000	175,860	3.00	Negotiated	3.00
TOTAL VOLUMES		165,000	175,860			

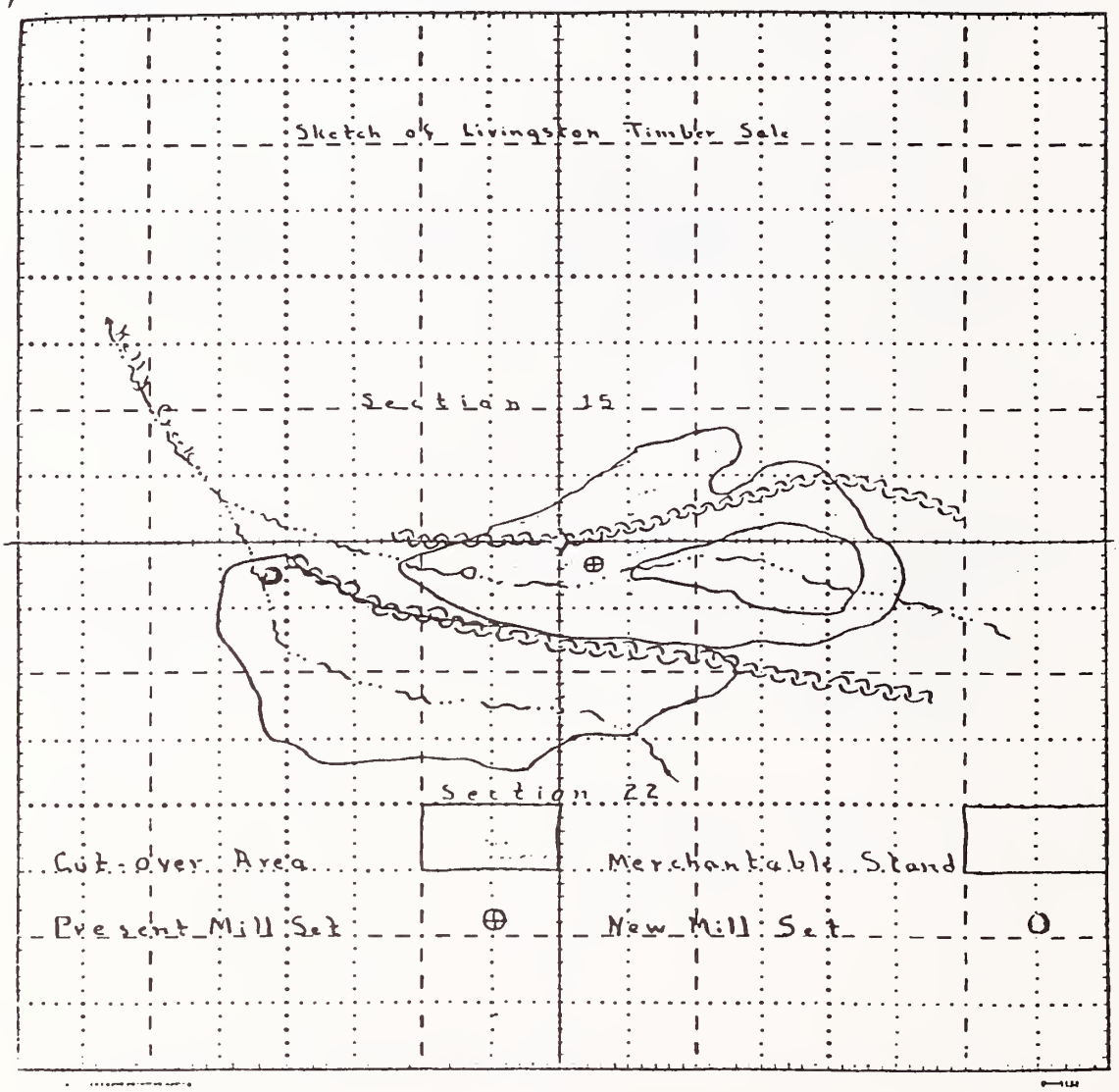
TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
495.00	NA	495.00	527.58

*In addition to 175,860 feet; additional 40,000 feet milled for Indians on a toll basis as provided in contract.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF INDIAN AFFAIRS
FOREST TOPOGRAPHER'S LARGE MAP SHEET

Tongue River Indian Reservation T. 2 S. R. 42 E. Sec. 15/22 Contour Interval, feet — Scale: 8 inches = one mile.

Crew PES Date 8-10-42 Topographer PES



Northern Cheyenne

TIMBER SALE DATA

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Tribal T25 R42E Parts Sec. 26, 27	*See below	Gail Bolson Livingston (Lame Deer)	I-104-ind-3309

INDIAN OFFICE FILE NO	CONTRACT APPROVED	CONTRACT EXPIRED
13059-43	3-18 19 43	9-1 19 43

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS
19	9-2 19 43	

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD FT.)	ACTUAL CUT VOLUME (BD FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.		165,000	200,150	3.00	Negotiated	3.00
TOTAL VOLUMES		165,000	200,150			

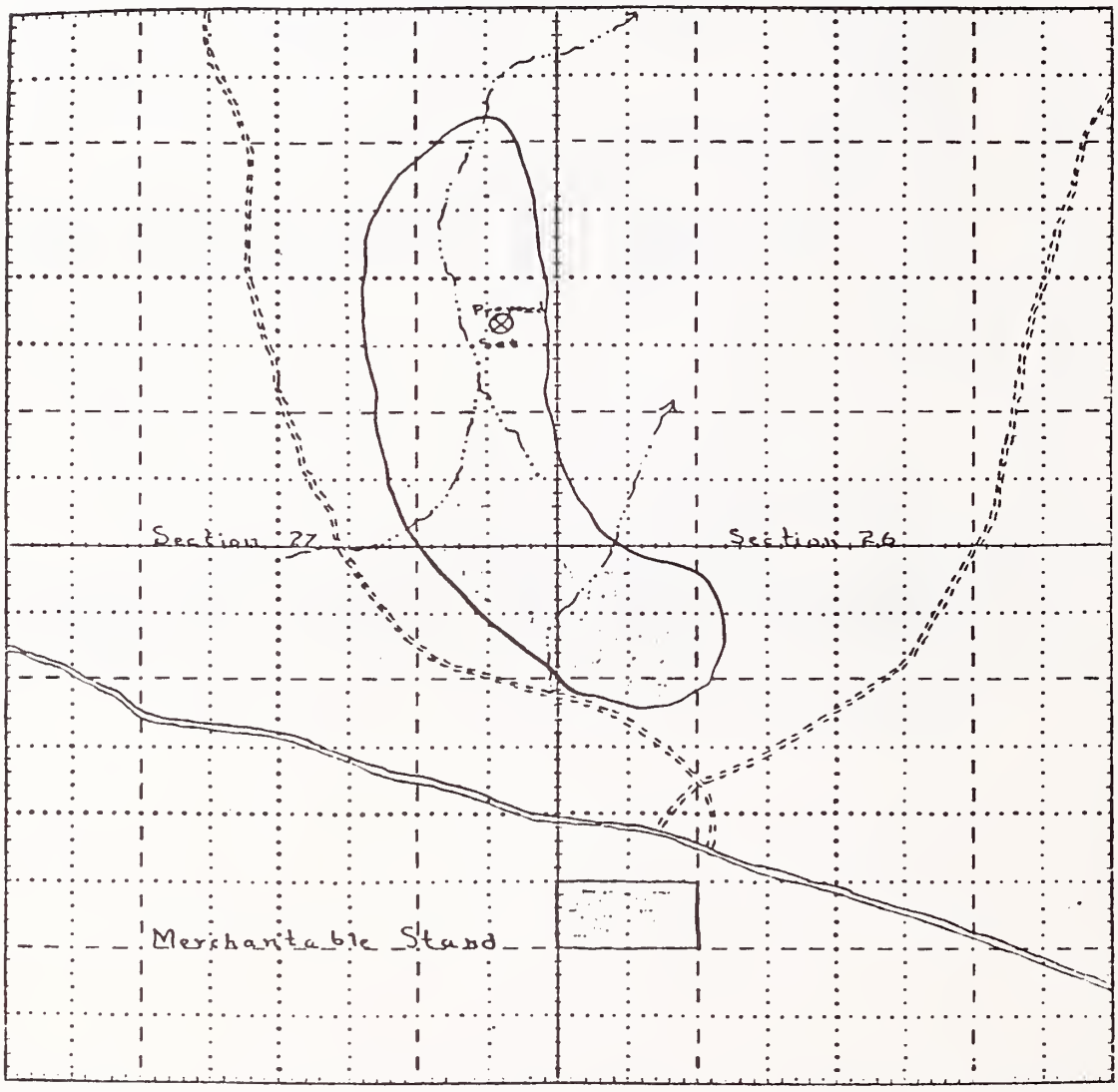
TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
495.00	NA	495.00	600.45

*NW 1/4 SW 1/4, Section 26 and part of NE 1/4 SE 1/4 Section 27, T2S, R42E

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF INDIAN AFFAIRS
FOREST TOPOGRAPHER'S LARGE MAP SHEET

Tongue River Indian Reservation. T. 2 S R. 42 E Sec. 27/26 Contour Interval, feet —

Crew FES Date 2-24-43 Topographer FES



TIMBER SALE DATA

Northern Cheyenne

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Dry Creek	SW1/4, Sec. 28, T5S, R39E	H.O. Hayden, Kirby, MT	I-104-ind-3312

INDIAN OFFICE FILE NO	CONTRACT APPROVED	CONTRACT EXPIRED
11624-43	3-22 19 43	9-1 19 43

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS:
12-31 19 43	1-15 19 44	

VOLUMES AND RATES

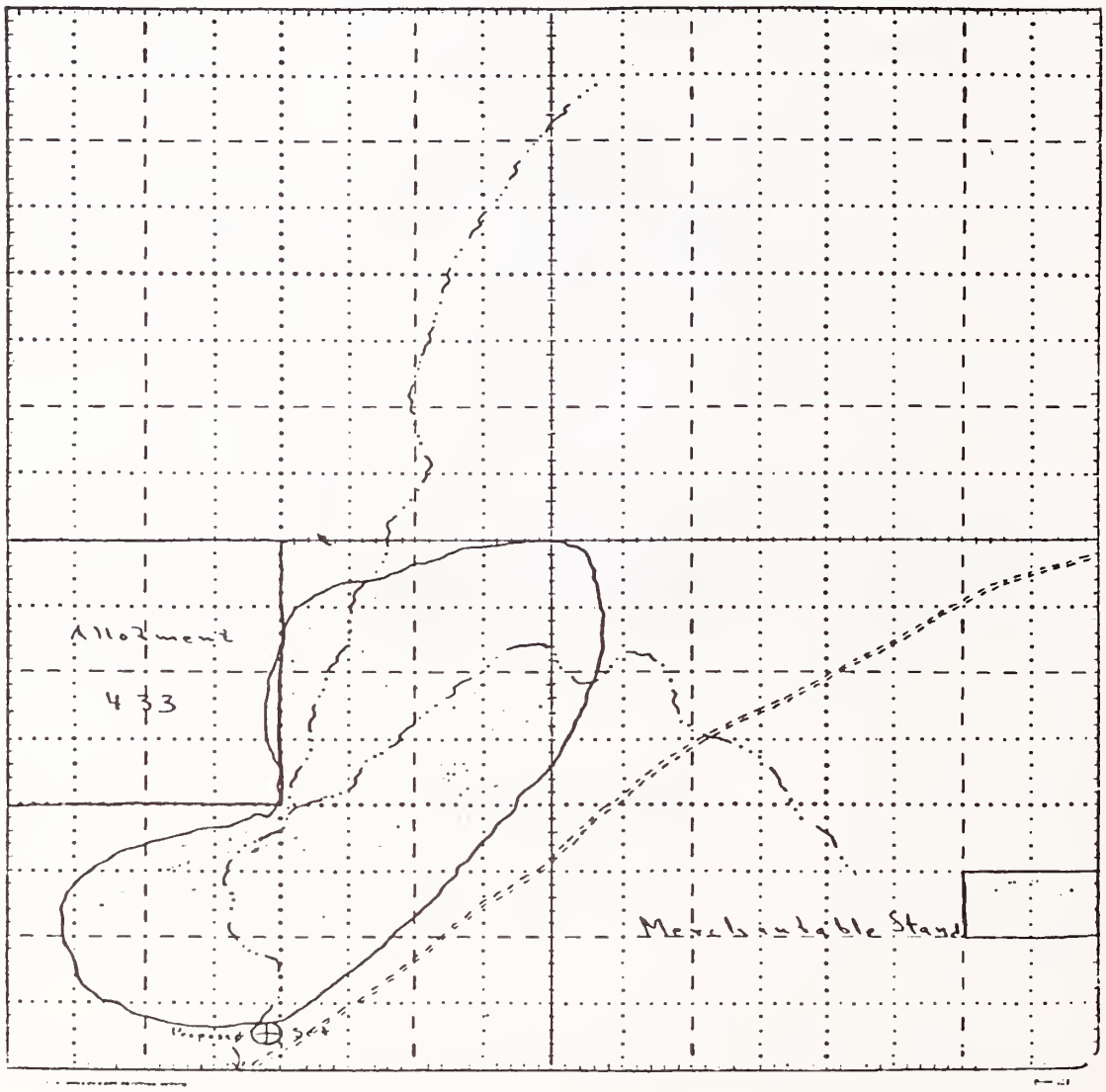
SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.		165,000	100,520		3.00	3.00
TOTAL VOLUMES		165,000	100,520			

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
	495.00	495.00	301.56

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF INDIAN AFFAIRS
FOREST TOPOGRAPHER'S LARGE MAP SHEET

Tongue River Indian Reservation. T. 53 R. 39 E. Sec. 28 Contour Interval, feet ——— Scale: 8 inches = one mile.

Cruiser PES Date 2-20-43 Topographer PES



TIMBER SALE DATA

Northern Cheyenne

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Tribal	Sec. 26, T2S, R42E	Lame Deer, MT Gail Bolson Livingston	I-104-ind-3337

INDIAN OFFICE FILE NO.	CONTRACT APPROVED	CONTRACT EXPIRED
31864-43	8-5 19 43	2-1 19 44

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS
19	2-2 19 44	*Awarded to Indian without advertising

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.		165,000	190,200	3.00	Negotiated	3.00
TOTAL VOLUMES		165,000	190,200			

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
495.00	NA	495.00	570.60

TIMBER SALE DATA

Northern Cheyenne

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Tribal	N1/2 NW1/4 NE1/4 NE1/4 NW1/4 Section 36, T2S, R41E	James C. Burns Jr., Lame Deer, MT	I-104-ind-3351

INDIAN OFFICE FILE NO.	CONTRACT APPROVED	CONTRACT EXPIRED
50335-43	12-4 19 43	6-1 19 44

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS:
19	3-31 19 44	*Awarded to Indian without advertising

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.		50,000	35,680	3.00	Negotiated	3.00
TOTAL VOLUMES		50,000	35,680			

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
495.00	NA	150.00	107.04

TIMBER SALE DATA

Northern Cheyenne

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Tribal	*See below	Mrs. Gail Bolson Livingston Lame Deer, MT	I-104-ind-3403

INDIAN OFFICE FILE NO	CONTRACT APPROVED	CONTRACT EXPIRED
5002-44	1-24 19 44	9-1 19 44

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS
2-1 19 45	3-1 19 45	

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.		165,000	151,150	3.00	Negotiated	3.00
TOTAL VOLUMES		165,000	151,150			

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
495.00	NA	495.00	453.45

*SW 1/4, Section 25, T2S, R42E
Section 1, 2, 4, 11, 12, 15 T3S, R41E

TIMBER SALE DATA

Northern Cheyenne

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Soldier Gulch Unit No. 1	*See attached map	Livingston Saw and Planning Mill	I-104-ind-3444

INDIAN OFFICE FILE NO	CONTRACT APPROVED	CONTRACT EXPIRED
3597-44	12-30 19 44	3-31 19 47

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS:
19	4-30 19 48	*one adjustment in 1946; 7/1/46 $3.10

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD FT.)	ACTUAL CUT VOLUME (BD FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.		1,000,000	1,107,340	3.00	3.00	3.00
TOTAL VOLUMES		1,000,000	1,107,340			

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
3,000,000	3,000,000	3,000,000	3,358.45

Map of
Soldier Gulch Timber Sale Unit
TONGUE RIVER INDIAN RESERVATION
MONTANA
RESERVATION
Burbwood Spr.
Rye
Grass
Cr.
Kelly
Cr.
Ice Wells
Badger Peak
Lookout
Mission
Alderson
Cr.
South
Fork
INDIAN
AGENCY
Lame Deer
Coal
Cr.
Sub Unit No. 1
Sub Unit No. 2
Sub Unit No. 3
First
Gulch
Fork
East
White

Northern Cheyenne

TIMBER SALE DATA

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Soldier Gulch No. 2	Secs. 6, 7, 8, 17, 18, 19, 20, T3S, R42E	Paul Siegfried	I-104-ind-3840

INDIAN OFFICE FILE NO	CONTRACT APPROVED	CONTRACT EXPIRED
4306-47	7-15 19 47	3-31 19 51

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS
7-1 19 54	6-6 19 55	Rates adjusted yearly;*see below

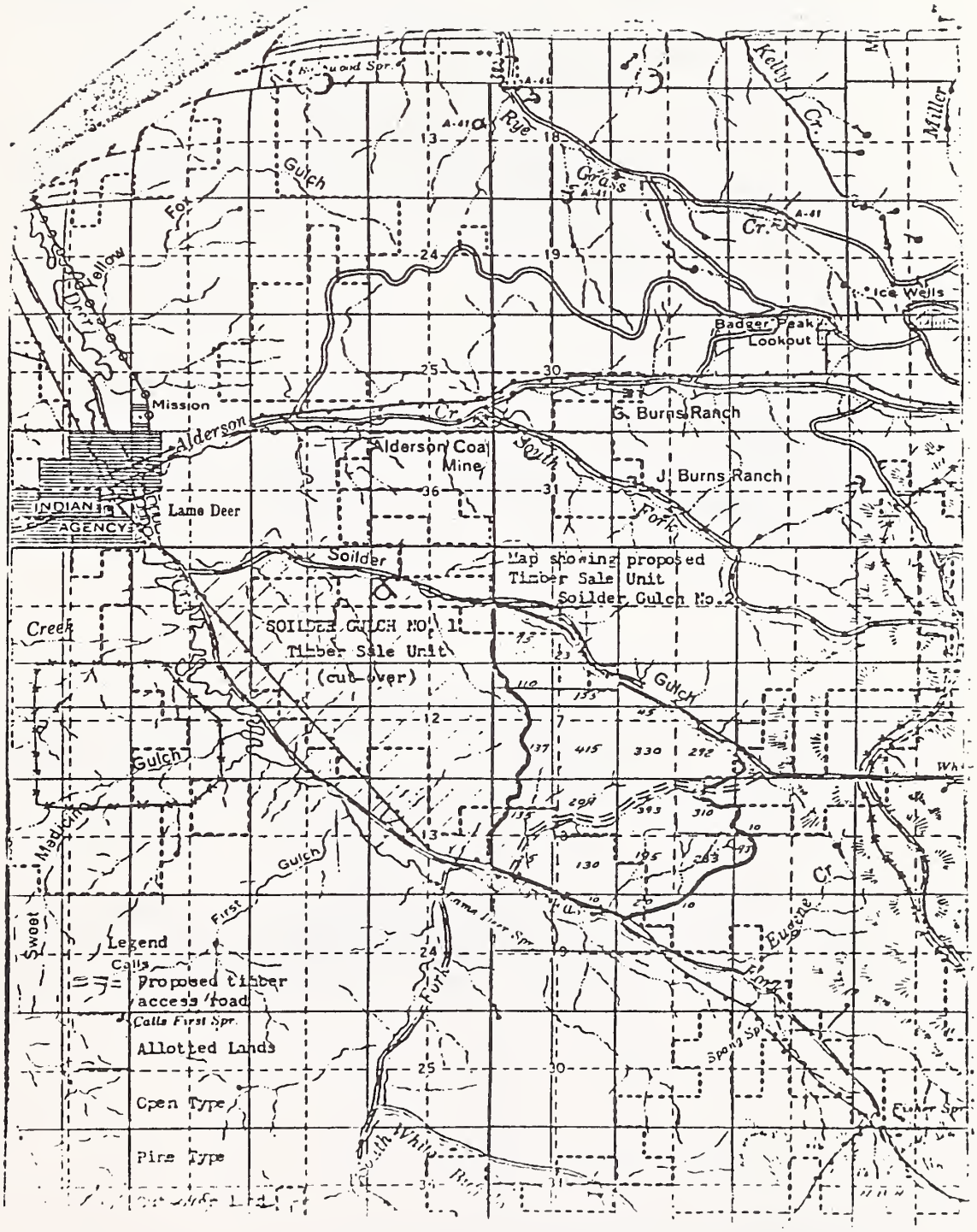
VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD FT.)	ACTUAL CUT VOLUME (BD FT)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.			2,529,950		3.00 - 5.25	6.05
TOTAL VOLUMES		2,000,000	2,529,950			

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
		12,100	28,311.14

*Allot. No.	Est. Vol.	Vol. Cut	Est. Value	Total Amt. Rec'd.	Date approved.
Tribal	1,530m	1,913,020		$ 21,833.80	7-15-47
211	48m	45,030	$ 290.40	606.56	12-23-47
214	10m	37,790	60.50	489.66	12-23-47
614	45m	9,290	272.25	125.13	12-23-47
615	40m	45,580	242.00	592.77	10-29-47
616	10m	6,570	60.50	88.50	10-29-47
976	250m	333,710	1,512.50	2,733.82	"
978	10m	10,950	60.50	126.29	"
1025	2m	none	12.10	none	"
1433	10m	23,210	60.50	302.94	"
1449	20m	15,540	121.00	209.33	12-23-47
1451	30m	34,730	181.50	467.82	10-29-47
1452	80m	54,530	484.00	734.52	"

Est. Vol.: Tribal 1,530m Allotted 470m


Map showing proposed
Timber Sale Unit
Soilder Gulch No. 2
SOILDER GULCH NO. 1
Timber Sale Unit
(cut-over)
Legend
Proposed timber
access road
Allotted Lands
Open Type
Pine Type
Mission
Lame Deer
INDIAN
AGENCY
Alderson Coal
Mine
G. Burns Ranch
J. Burns Ranch
Badger Peak
Lookout
Ice Wells
Soilder
Alderson
Rye
Grass
Kelly Cr.
Miller
Eugene
Swoot
Creek
Gulch
First
Fork
South
Cr.

Northern Cheyenne

TIMBER SALE DATA

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Lame Deer-Ashlannd D.C. Rt. of way (highway)		Albert Lalonde Co.	I-104-ind-4587

INDIAN OFFICE FILE NO	CONTRACT APPROVED	CONTRACT EXPIRED
4543-50	2-3 19 50	6-30 19 50

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS:
19	4-18 19 50	

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.		70,000	137,750		10.56	10.56
		D.C. (86.000)				
TOTAL VOLUMES			137,750			

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
	739.20 or 897.60	739.20 (D.C. 897.60)	1,454.64

Northern Cheyenne

TIMBER SALE DATA

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Allot. No. 34	N1/2 NW1/4 NW1/4 NE1/4 Sec. 9, T3S, R44E	Albert Lalonde Co.	

INDIAN OFFICE FILE NO	CONTRACT APPROVED	CONTRACT EXPIRED
	2-10 19 50	6-30 19 50

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS:
19	4-18 19 50	

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.		2,000	4,300		10.56	10.56
TOTAL VOLUMES		2,000	4,300			

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
	21.12	21.12	45.40

Northern Cheyenne

TIMBER SALE DATA

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Allot no. 316	NE1/4 NE1/4 Sec. 1, T3S,R43E	Albert Lalonde Co.	

INDIAN OFFICE FILE NO	CONTRACT APPROVED	CONTRACT EXPIRED
	2-17 19 50	6-30 19 50

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS
19	4-18 19 50	

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.		9,000	5,250		10.56	10.56
TOTAL VOLUMES						

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
	95.04	95.04	55.44

Northern Cheyenne

TIMBER SALE DATA

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Allt. No. 1253	NW1/4 NE1/4 Sec. 35, T2S, R42E	Albert Lalonde Co.	I-104-ind-

INDIAN OFFICE FILE NO.	CONTRACT APPROVED	CONTRACT EXPIRED
	2-17 19 50	6-30 19 50

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS:
19	4-18 19 50	*Allotment of Rufus Wallowing

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.		1,000	730		10.56	10.56
TOTAL VOLUMES						

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
	10.56	10.56	7.71

Northern Cheyenne

TIMBER SALE DATA

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Allot. No. 1394	NE1/4 NE1/4 Sec.35, T2S, R42E	Albert Lalonde Co.	

INDIAN OFFICE FILE NO	CONTRACT APPROVED	CONTRACT EXPIRED
	2-20 19 50	6-30 19 50

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS:
19	4-18 19 50	

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD. FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
			11,210			10.56
TOTAL VOLUMES			11,120			

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
			118.37

TIMBER SALE DATA

Northern Cheyenne

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Alderson Gulch	See below	Tongue River Lbr. Co.	14-20-257-98

INDIAN OFFICE FILE NO.	CONTRACT APPROVED	CONTRACT EXPIRED
12656-55	3-14 19 57	4-1 19 62

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS
(3-31 BAO) 4-1 1963	1-11 19 72	Assigned to: Leon W. & A.L. Perry 9-15-49

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD. FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.	sawlogs				16.25	16.25
	Tribal	9,800,000	4,691.320			
	allotted	1,200,000	310,850			
TOTAL VOLUMES		11,000,000	5,002,170			

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
	178,750.00	178,750.00	60,300.08

*No bids received-contract negotiated

Stumpage adjustments

Over for allotments

Amounts received:

Tribal	$56,832.15
Allotted	3,467.93
	$60,300.08
Advance payments	3,103.07
Advance deposits	3,849.33
Payment on damage suit (7,500 each Perry-suit for breach of contract)	15,000.00
	$82,252.48

BAO - 82,252.48 (includes damage settlement, advance deposit, advance payment)

Location: Sections 19, 20, 21, 26, 27, 28, 29, 30 and 35 and all of Sections 31, 32, 33, and 34 in T2S, R42E; portions of Sections 3, 6, 7, 8, 9, 10, in T3S, R42E; all of Sections 4, 5, T3S, R42E

Allot. #	Cont. #	Est. Vol.	Actual Vol.	$ Receipts
68	1	142,000	130,680	1,651.45
195	2	29,000	-	117.82
196	3	37,000	-	150.32
198	4	59,000	-	239.69
198	5	4,500	-	18.28
198	6	3,500	-	14.22
199	7	60,500	25,220	318.28
316	8	18,000	38,470	544.31
471	9	23,000	-	93.44
533	10	92,500	84,990	679.92
601	11	110,000	24,060	192.49(254.40)
1029	12	44,500	0 (fee patent 9-20-60)	26.40 advance
1029	13	6,500	-	180.78
1394	14	17,000	-	41.44
41	15	125,000	-	509.85
42	16	50,000	-	203.13
613	17	18,500	7,250	81.49
1023	18	88,000	-	357.50
1024	19	36,000	-	146.25
1025	20	63,500	-	257.97
1026	21	57,500	-	233.60
1449	22	6,000	-	24.38
1450	23	42,000	-	170.63
1451	24	15,500	-	62.97

Total Adv. payment - $4,253.90

Northern Cheyenne

TIMBER SALE DATA

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Boundary	Parts of Secs. 11, 14, 23; T5S, R38E	Tongue River Lumber Co.	14-20-257-154-161 and 163

INDIAN OFFICE FILE NO	CONTRACT APPROVED	CONTRACT EXPIRED
13753-58	7-30 19 58	12-31 19 58

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS:
6-30-65 (BAO) 7-1 19 64	12-28 19 64	Assigned to Saunders Lbr. Co. 11-27-59

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD. FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.		154,800	147,990		11.20	11.20
TOTAL VOLUMES		154,800	147.990 (137,990 [BAO])			

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
	1,733.76	1,733.76	1,695.90

This unit composed of timber on 9 Northern Cheyenne and 5 Crow allotments. Advertised as one unit (one surety bond). See Crow #14-20-252-910-914.

N. Cheyenne Contract #	Allot. #	Est. Volume	Est. Value	Amt. Rec'd.	Vol. Cut.
14-20-257-154	975	36,000	$ 403.20	$ 40.32	3,050**
155	365	1,800	20.16	2.02	0*
156	364	9,000	100.80	10.08	0*
157	803	13,500	151.20	550.03	49,110
158	546	36,000	403.20	956.14	85,370
159	545	13,500	151.20	22.40	2,000
160	550	27,000	302.40	94.75	8,460
161	644	9,000	100.80	10.08	0*
163	1045	9,000	100.80	10.08	0*
		154,800	$1,733.76	$1,695.90***	147,990
Crow Totals		678,000	7,593.60		
Unit Totals		832,800	9,327.36		

*no cutting represents advance payment

**value of timber out less than advance payment

***includes 38.42 excess advance payment

TIMBER SALE DATA

Northern Cheyenne

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Marie American-horse Teeth	*See below	Paul Siegfried	14-20-0257-442

INDIAN OFFICE FILE NO	CONTRACT APPROVED	CONTRACT EXPIRED
2816-64	3-20 19 64	12-31 19 64

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS
19	12-22 19 64	

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME MBM	ACTUAL CUT VOLUME MBM	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.	Sawlogs	30.15	30.15	1.09	6.00	6.00
TOTAL VOLUMES		30.15	30.15			

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
32.86	180.90	180.90	180.90

*SW 1/4 SW1/2, N1/2 SE1/4 SW1/4 and N1/2 SW1/4 SE1/4 Section 11 and NW1/4 NW1/4 Section 14 T3S, R41E

TIMBER SALE DATA

Northern Cheyenne

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Allot. 201	*See below	Paul Siegfried	14-20-C-57-447

INDIAN OFFICE FILE NO	CONTRACT APPROVED	CONTRACT EXPIRED
6902-64	12-22 19 64	3-30 19 66

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS
19	5-24 19 66	Allotment 201

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.	Sawlogs	88,424	88,424	8.06	8.06	8.06
TOTAL VOLUMES		88,424	88,424			

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
712.70	712.70	712.70	712.70

*S1/2 N1/2 SW1/4 NW1/4, S1/2 SW1/4 NW1/4, NE1/4 NE1/4 SW1/4, E1/2 NW1/4 NE1/4 SW1/4 NE1/4 SW1/4 NE1/4 SW1/4, N1/2 SE1/4 NE1/4 SW1/4, NW1/4 NW1/4 SE1/4, W1/2 NE1/4 NW1/4 SE1/4, NW1/4 SE1/4 NW1/4 SE1/4, N1/2 SW1/4 NW1/4 SE1/4, of Sec. 25 and E1/2 SE1/4 NE1/4, E1/2 W1/2 SE1/4 NE1/4 of Sec. 26, T2S, R41E

Northern Cheyenne

TIMBER SALE DATA

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Alderson Gulch Resale	See below	Black Lumber Co.	14-20-0257-540

INDIAN OFFICE FILE NO	CONTRACT APPROVED	CONTRACT EXPIRED
5597-66	12-8 19 66	4-30 19 72

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS:
12-31 19 76	12-12 19 77	Adjustments in mimimum cut and pay

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD FT)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.	Sawlogs			3.00 (Tribal)	3.00	3.00
				2.12 (BAO)		
Modification				3.00 (allotted)		3.00
Green P.P.	Sawlogs	3,581 (Tribal)				32.78
		953 (Allotted)				32.78
Mer. Dead P.P.	Sawlogs	Undeter.				*
Optional		Undeter.				**
TOTAL VOLUMES		4,534				

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
		21,240.00	89,889.22

Allot. #	Est. Volume - Gross	Est Volume - Net
41	175,890	140,172
42	100,670	80,536
195	62,240	49,792
196	71,510	57,210
198 (198-3)	131,410	105,130
198-A (198-2)	10,450	8,360
198-B (198-1)	7,470	5,980
471	30,220	24,176
533	78,790	63,030
601	97,260	77,810
613	13,570	10,856
1023	36,080	28,864
1024	37,060	29,648
1025	73,160	58,528
1026	117,940	94,352
1449	6,570	5,256
1450	66,430	53,144
1451	20,360	16,288
	1,137,080	909,664

Alderson Gulch Resale Location:

11,600 acres in Sections 19, 20, 21, 26, 27, 28, 29, 30, and 35 and all of Sections 31, 32, 33, and 34 in T2S, R42E; all of Sections 3, 6, 7, 8, 9, 10, in T3S, R42E

Northern Cheyenne

TIMBER SALE DATA

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
St. Johns Creek	Section 33 T4S, R41E & Sec. 3, 4 *	Black Lumbr. Co., Inc.	14-20-0257-586

INDIAN OFFICE FILE NO	CONTRACT APPROVED	CONTRACT EXPIRED
3217-67	7-28 19 67	12-31 19 68

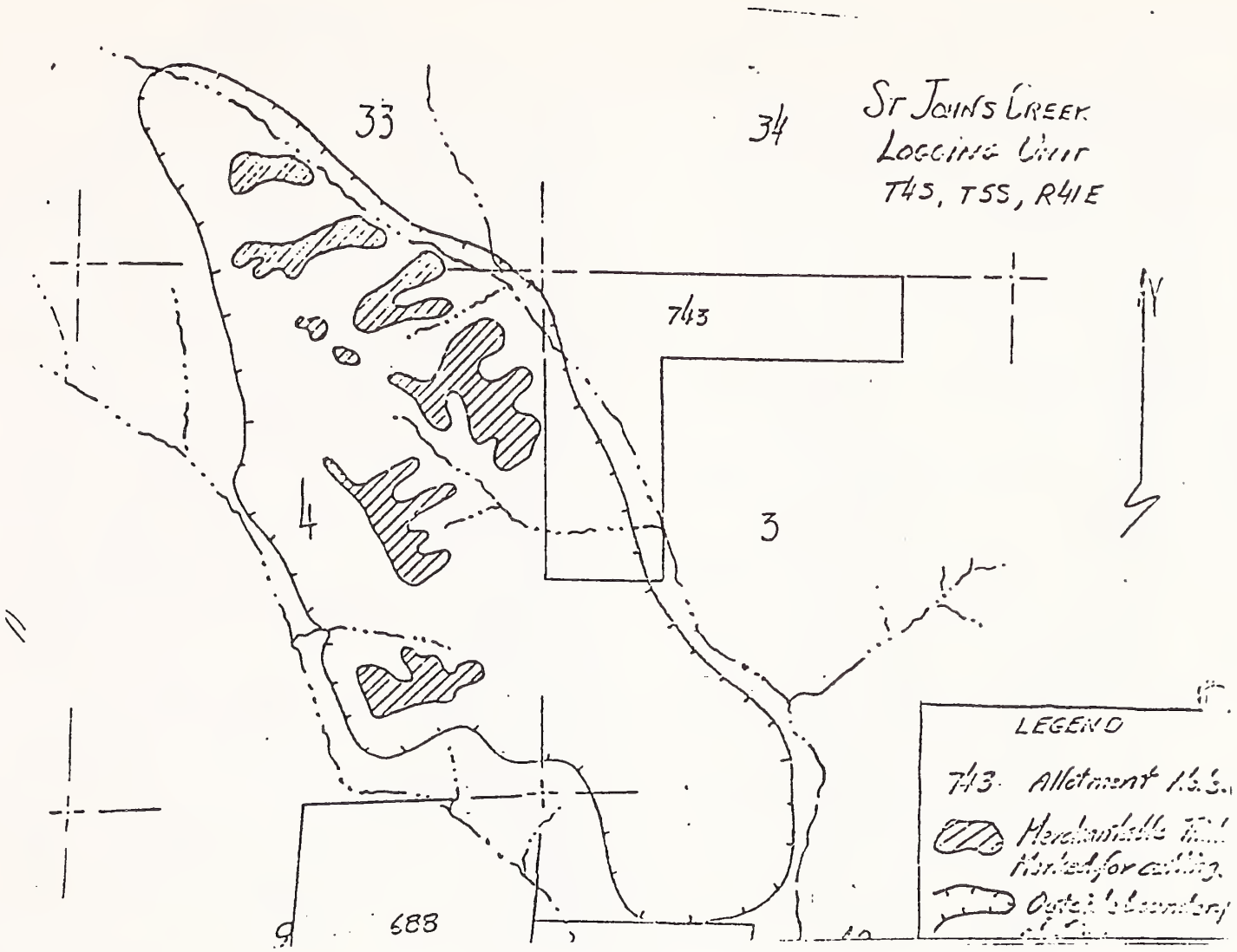
CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS:
19	9-4 19 68	

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD FT.)	ACTUAL CUT VOLUME (BD FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.	Sawlogs	325,478	325,478		2.50	2.50
TOTAL VOLUMES		325,478				

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
	813.70	813.70	813.70

*T5S, R41E


St Johns Creek
Logging Unit
T4S, T5S, R41E
33
34
743
4
3
688
LEGEND
743 Allotment

Northern Cheyenne

TIMBER SALE DATA

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
North Side No. 2	*See attached map	Ashland Lumber Co. (Assigned 1/78 AA)	14-20-0257-706

INDIAN OFFICE FILE NO	CONTRACT APPROVED	CONTRACT EXPIRED
270-69	6-26 19 69	12-31 19 80

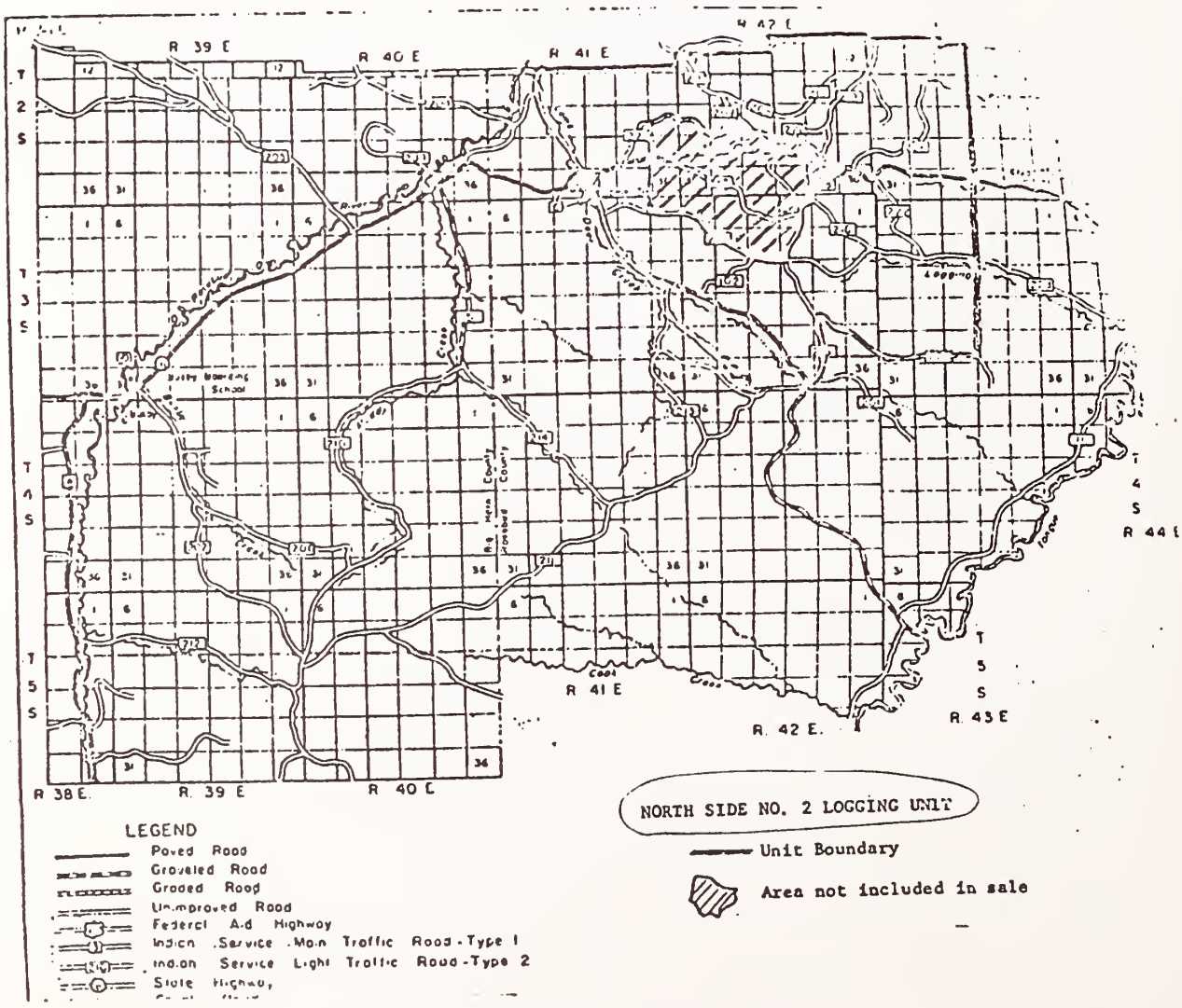
CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS
19	19	*See below: Stumpage rates adjusted minimum annual out adjustments

VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD FT)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
P.P.	Sawlogs	45,008		13.10	13.10	13.10
P.P.	Pulpwood	Undeter.		1.00	1.00	1.00
P.P.	Fenceposts	"		.02	.02	.02
P.P.	Poles 10' & longer	"		.01	.01	.01
*Additional	Timber not subject to stumpage adjustment					
Merc. Dead PP	Sawlogs					
TOTAL VOLUMES						

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED

P.P.	15.41	15.41	11.39	10.35	10.35	11.90	18.95	23.83
	10/1/69	1/1/70	7/1/70	10/1/70	1/1/71	4/1/71	7/1/71	10/1/71



Northern Cheyenne

TIMBER SALE DATA

LOGGING UNIT	LOCATION	PURCHASER	CONTRACT NO
Pawnee Salvage	*See below	Arness-Anderson Corp. Ashland, MT	14-20-0257-964

INDIAN OFFICE FILE NO	CONTRACT APPROVED	CONTRACT EXPIRED
	19 78	12-31 19 78

CONTRACT EXTENDED TO	CERTIFICATE OF COMPLETION	REMARKS
19	19	*Recent; no information available on completion

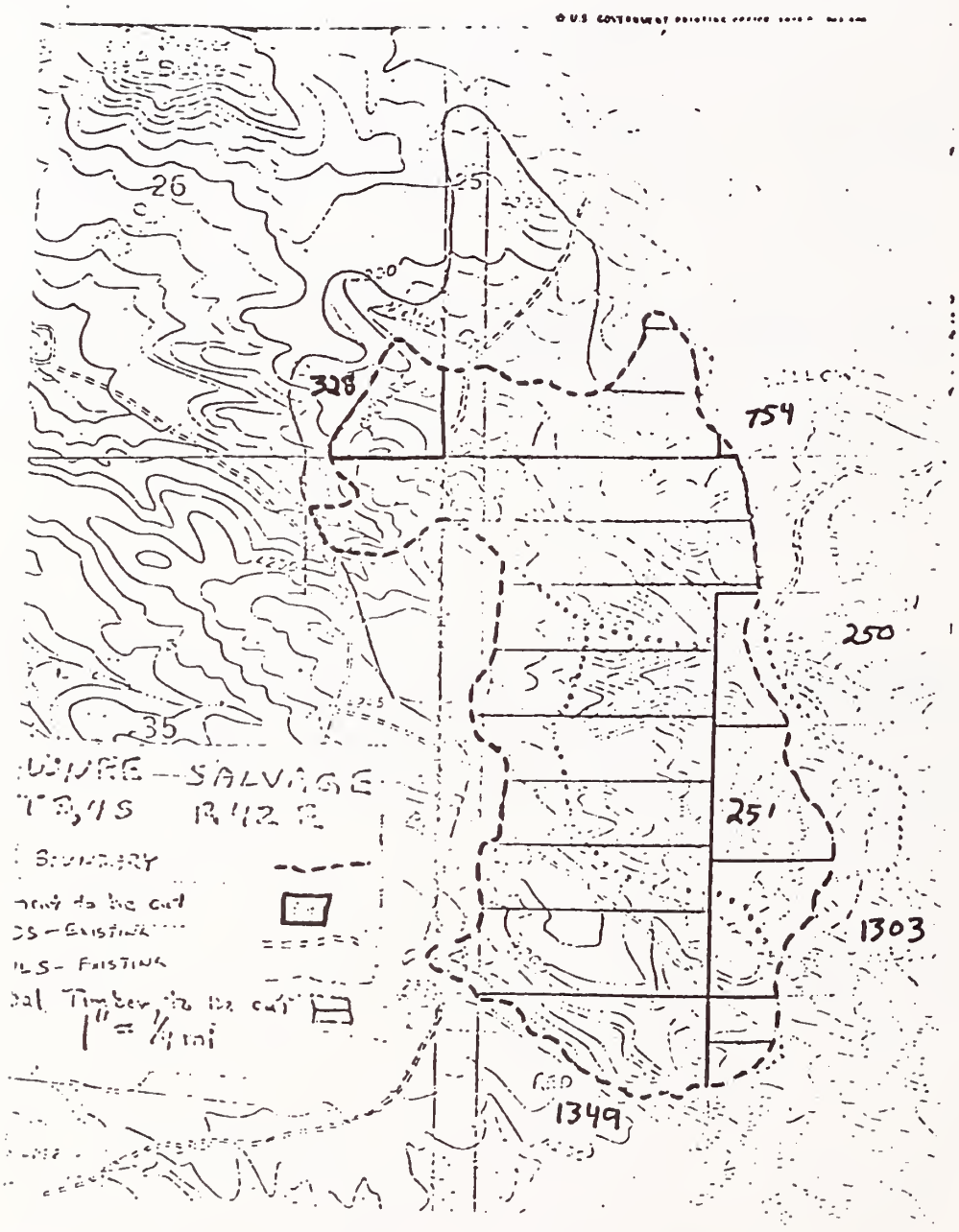
VOLUMES AND RATES

SPECIES	PRODUCT	ESTIMATED CUT VOLUME (BD. FT.)	ACTUAL CUT VOLUME (BD FT.)	APPRAISED RATES (MBM)	ADVERTISED RATES (MBM)	BID RATES (MBM)
PP	Sawlogs	1,387.53				3.00
TOTAL VOLUMES						

TOTAL APPRAISED VALUE	TOTAL ADVERTISED VALUE	TOTAL BID VALUE	TOTAL AMOUNT RECEIVED
		4,162.59	

*Portion of Section 25, 26, 35, 36, T3S, R42E and Section 1, T4S, R42E and 390 acres irreg. boundary

539.5 N Chey
Fownce Salvage Logging Unit



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